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WOMEN IN INDUSTRY IN THE UNITED STATES.[1]

By JAMES H. MCBRIDE, M.D., Pasadena, Cal.

The work of woman has always been quite as important to the race as that of man. His work, which took him into active contact with rude nature in the primitive state or out into the world of business in the civilized state, with its aggressiveness and essential warfare, has been more conspicuous and has had in it more of that which appeals to the imagination and makes history.

The primitive woman, however, who kept the camp or her successor who has kept the home has helped equally with man to save the race, and the quiet courage of her obscure life has well matched the more adventurous bravery of man. From the very necessity of conditions hitherto the world has given the greater admiration and the larger credit to the fighting quality of the man, for until now, not only in savage but in civilized times, we have been engaged in pioneering and in organizing the harsher outward-moving forces of society and therefore the masculine qualities have dominated the world.

Now, however, the ruder forces of the earth have been subdued; the continents are peopled and are organized in society, and man's work has, and will have, more and more the quieter, plodding spirit that woman has shown so long and so well. Hereafter as the adventurous qualities disappear there will be more need for those less obtrusive, home-made characteristics, and men and women will work together, not for conquest, not for glory, and less and less for selfish ends, but for the betterment of the conditions of living, that they and their successors may be healthier and happier.

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[1] Read before the American Academy of Medicine at the Thirty-seventh annual meeting, Atlantic City, May 31, 1912.

The uncivilized woman was the worker of the tribe and in quite as large a measure as the man, the conserver of the tribal organization. Most of the industries that have been so highly developed in civilization were in a rude way practised by women in the uncivilized state, so that we find that the factories of to-day, that now out-tower the steeples, have distant but direct relationship with the simple industries of the wild woman.

Among primitive races, even those that now exist, the woman has kept the camp, gathered the fuel and much of the food, pitched the tent, made the clothing, wove the baskets, and was also carrier, mason and in large part the builder.

The Moki women have fifty ways of preparing corn for food, and to do this they carry stones for their bake oven, cut them and put them together with careful masonry. The wild woman is physically as strong as the man and has equal endurance. That in civilized life she is more frail than man is due to the artificial and dwarfing effects of civilization.

When the northern tribes invaded the Roman Empire they were accompanied by their women who toiled and tramped and when necessary fought by the side of the men. If the race is to meet the demands of a civilization that is to become more and more complex, they must, among other things, rescue the future mothers of the race from the artificial frailty that civilized conditions tend to impose, and redevelop the physical vigor that their ancestors had.

The conditions under which the majority of wage-earning women now work, the monotonous position, the nervous strain of the high speed and the indoor life are detrimental to health, and the experience of over a hundred years in this country has shown that the health of women engaged in it suffers.

In colonial times in this country the work of the mothers and daughters of the family was such as is now very largely done by corporations and in factories. They did the cooking, the laundering, the dairying, the carding, spinning, weaving, the cutting and making of clothing, all of which, except the cooking, is now done outside the home. When woman went to work in the factory she simply followed her old employment as it passed out of the home.

This change from the manufacturing of the home to the manufacturing, as it is now known, was very gradually introduced, and in this country its earliest and chief development was in New England.

The Puritan had a horror of the sin of idleness and an obsession in regard to the benefit and moralizing quality of work. The records of the town boards of New England villages show the interest they took in keeping everybody busy and of the frequent official action to this end in the cases of those they called idlers. Even children were required to be always busy and their employment in factories or in learning trades was urged in order that they might avoid the sin of idleness. "In 1789 a petition in behalf of the first cotton factory of Massachusetts, that of Beverly, stated that it would afford employment to a great number of women and children, many of whom will be otherwise, useless, if not burdens to society." At about this time Hamilton in his famous "Report on Manufactures" said that the establishment of manufactures would furnish employment for persons who would otherwise be idle. "In general," he said, "women and children are rendered more useful by manufacturing establishments than they otherwise would be." He pointed out that "the husband himself would experience a new source of profit and support from the increased industry of his wife and daughters, invited and stimulated by the demands of the neighboring manufactories."[1]

Under a protective tariff, the manufactories of the country

[1] "Women in Industry," Edith Abbott, p. 50.

grew and the number of women and children employed increased correspondingly. The fact that manufactories would give employment to women and children was an argument used for their establishment.

Miss Abbott says:

> The approval of child labor was, in short, met with on all sides. Early inventors worked to discover possible means of using the labor of children as well as women. Commendation was solicited for Baxter's machines on the ground that they could be turned, one sort by children from five to ten years and the other by girls from ten to twenty years.
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> A memorandum from the "Poignaud and Plant Papers" showing the wages paid to Dennis Rier for himself and his family of children and to Abigail Smith and "her daughter Sally, 8 years of age, and son Samuel, 13 years of age," is of interest from this point of view. Of similar interest is a wages book for the year 1821, still in the possession of the agent of the Waltham Cotton Mills, which shows that one Gideon Haynes, in that year, came regularly to collect the wages of his children: for Cynthia Haynes, who worked in the cloth room, two dollars and a quarter a week; for the three children who were employed in the card room, Ann, one dollar and a half a week, Sarah, two dollars, and Sophia, two dollars and eight cents. Samuel Longley also came to collect the three dollars and a half, which represented the joint weekly earnings of his daughters Sarah and Rebecca."[1]

As manufacturing grew it became the practice for the young women of New England towns to enter factories and earn money for purposes of education or to help them start in married life, or to remain permanently as employees. These were the daughters of respectable New England families. They formed improvement societies, attended lyceum lectures by John Quincy Adams, Emerson, and Edward Everett. They took books to the factories to read when they had a spare moment. Some of the young women alternated teaching school with factory work.

The conditions of work in the early part of the 19th Century were not good. In fact the redeeming feature of our factories of to-day, poor as they are from the point of hygienic arrangements, is that as a rule they are much better than the earlier factories. The mills were cheaply built, heated by stoves, badly ventilated or not ventilated at all, and lighted with whale oil lamps. The dust of the mills accumulated in the rooms and as the windows were kept closed in winter the temperature rose frequently to 90 degrees. The hours were usually from 5 to 7 with thirty minutes for lunch.

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[1] Abbott, p. 60.

The average wages of women in textile factories from about 1833 to 1850 was usually $2.00 per week, with board. The rooming accommodations were wretched, from four to six persons occupying one room, 14 by 16 feet in size. One of the girls of the period describing her room says:

> It is quite common for us to write on the cover of a handbox, and sit upon a trunk, as tables or chairs in our sleeping-rooms are all out of the question, because there is no room for such articles, as 4 or 6 occupy every room, and of course trunks and handboxes constitute furniture for the rooms we occupy. A thing called a light-stand, a little more than a foot square, is our table for the use of 6. Washstands are uncommon articles—it has never been my lot to enjoy their use, except at my own expense.[1]

Many complaints were made early in the history of the factory system, of the long hours required and in 1847–53, laws making the days work in factories 10 hours were passed in New Hampshire, Maine, Pennsylvania, New Jersey and Rhode Island. Unfortunately a provision of the law allowed operators to make contracts to work longer hours and the employers promptly discharged all who refused to sign. These laws, therefore, proved to be no protection.

From 1846 and even earlier in some of the states, foreigners, at first Irish and English, began to take the place of Americans in factories. The problems of the factory of sixty or more years ago were much the same as those of the present day, as shown by the following letter written to the Hon. Abbott Lawrence, an employer of labor, by John Allen in 1846:

> You work them so long that they have no time for daily bathing, as a protection to their health; you permit such short intervals of labor for meals that there is no opportunity given them to prepare with suitable clothing for the sudden change of temperature; * * * you compel them to stand so long at the machinery, without any proper exercise of the different muscles of the body, and such unnatural positions, that "varicose veins," dropsical swelling of the feet and limbs, and "prolapsus uteri," diseases that end only with life, are not of rare but of common occurrence.[2]

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[1] Abbott, p. 65.

[2] Abbott, "Women in Industry."

A writer in the *Voice of Industry*, in 1847, stated that because of the long hours few operatives could endure factory life very long and that constant changes were going on in the working force, which were bad for the girls and bad for the employers.

About the same time a correspondent of the *Harbinger* asserted that the effect of factory labor on health was "very deleterious," that "it required a strong and healthy woman to work steadily for one year in the mill," that a very intelligent operative "informed us that she doubted whether the girls, if a period of years were taken, could make out much more than half of the full time," and that "the whole system is one of slow and legal assassination."

There is much evidence that the earlier factory life was injurious to the health of employees, though there were, of course, no systematic investigations into factory conditions. The bad effects of it on the health of workers was frequently referred to in publications of the time.

Indeed it could hardly be otherwise than that the long hours, 12 to 15, the poor food (board being $1.50 per week), and the general unsanitary conditions would be injurious, even to the health of vigorous girls from the farms and villages.

It was fortunate that so many of the young people who engaged in factory work did not make a prolonged stay. It was said at the time that the health of girls could not long endure factory life. In Lowell, which was considered the ideal factory town of the period, we find that nearly two-thirds of those employed in the Lowell mills were women and 85 per cent. of these were under thirty. They came to the factory healthy and vigorous farm girls. In time the health of many failed, and they then usually returned to their home which helped Lowell to furnish a good health record. In fact if this point were not considered one might think Lowell an ideal health resort. A newspaper published at the time said: "The daughter leaves the farm, it is said, a plump, rosy-cheeked and laughing girl and in a year comes back....but alas how changed..... This is a dark picture but there are even darker realities," etc.[1]

The history of the industries of the time shows that women in other lines of labor were struggling with harsh conditions. For purposes of illustration we may take one class, the women who were doing needlework. Then as now and always the women who have made their living by the needle have had a life of hardship that often borders upon the tragic. It seems to be the occupation in so large a measure, of the casual worker that the market is always oversupplied and the competition reduces wages to the lowest level. In the forties and earlier the sewing work in the tailoring trade now done by men was then done chiefly by women, and we find the old familiar story of long hours, low wages and the gradual development of the sweat shop, the beginnings of which run back to 1828.

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[1] Abbott, p. 124.

In 1830 the tailors paid for making a pair of pantaloons which took 15 hours, 25 cents, and for making a shirt which took a whole day $12^1/_2$ cents.

In 1828 Matthew Carey began an agitation in the interest of working women and for many years he labored incessantly to relieve the distressing conditions under which they toiled, for they worked not only for long day hours, but often far into the night, and for niggardly pay. He investigated working conditions, called public meetings, organized societies and attempted to move the public and employers to some practical plan for relieving the terrible condition of the laboring people of the time. His agitation was possibly of some local and temporary benefit but hardly more than that.

In a letter to a newspaper of the time Carey said:

> That there is no grievance in this country that calls more loudly for redress, or is more severe in its operations, or more demoralizing in its consequences, than the paltry wages given for most species of female labor, not averaging, in many cases, more than one-third of what is earned by men for analogous employments.[1]

In support of his position he quoted a statement of the Rev. Ezra Stiles Ely, that:

> A common slave in the States of Virginia, Tennessee, and Kentucky is much better compensated for his labor by his necessary food, clothing, lodging and medicines, than many respectable mothers and daughters in this city,

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[1] This and quotations immediately following are from "Report of Commissioner of Labor," Vol. 9.

> [Philadelphia] who apply themselves diligently to their work two hours for every one occupied by the Negro in his master's services.

In 1845 the *New York Tribune* made an investigation into the condition of the working women in New York City. It stated:

> A most deplorable degree of servitude, privation, and misery among this helpless and dependent class of people, including hundreds and thousands of shoe binders, type rubbers, artificial-flower makers, match-box makers, straw braiders, etc., who drudge on in miserably cooped-up, ill-ventilated cellars and garrets, pining away heartbroken, in want, disease and wretchedness.
>
> In addition to the constant supply to the ranks of these classes furnished by the poor population of our city, poor girls continually flock to the city from every part of the country, either because their freinds are dead and they have no home, or because they have certain vague dreams of the charms of city life. Arriving here, they soon find how bitterly they have deceived themselves, and how rashly they have entered a condition where it is almost impossible for them to subsist, and where want and starvation are their only companions. They have been educated and reared in such a manner as to render the idea of servitude quite unendurable, and their only resort is the needle or some similar employment. Here they find the demand for work greatly oversupplied, and competition so keen that they are at the mercy of employers, and are obliged to snatch at the privilege of working on any terms. They find that by working from 15 to 18 hours a day they cannot possibly earn more than from $1.00 to $3.00 a week, and this, deducting the time they are out of employment every year, will barely serve to furnish them the scantiest and poorest food, which, from its monotony and its unhealthy quality, induces disgust, loathing and disease. They have thus absolutely nothing left for clothes, recreation, sickness, books, or intellectual improvement, and the buoyancy and exquisite animality of youth become a slow torturing fever from which death is a too-welcome relief. Their frames are bent by incessant and stooping toil, their health destroyed by want of rest and proper exercise, and their minds as effectually stunted, brutalized, and destroyed over their monotonous tasks as if they were doomed to count the bricks in a prison wall—for what is life to them but a fearful and endless imprisonment, with all its horrors and privations.

In 1851 a shirt-sewers coöperative union which existed in New York estimated that there were in that city 6,000 shirt-sewers, many of them widows with children, whose earnings were only $2.00 and $2.50 per week. During this time the clothing merchants were prospering in their business The *Philadelphia Ledger* stated in 1836 that "a common 'stock', the material of which cost 25 cents and for the making of which a woman was paid an equal amount, was sold by a merchant for $3.00, or 500 per cent. profit." The *Ledger* further stated that those who were employing female labor were "deriving immense fortunes." In this line of work there were two persons or more for every job, and as they were constantly underbidding each other, wages were lowered to a point where decent living was impossible.

Certain clothing merchants fixed the dollar value at 96 cents and many refused to pay for work until a certain amount due the worker had accumulated. Not infrequently payment was refused from various excuses and many poor women went away without their pay for work at which they had toiled for days. Lawyers volunteered their services to sue for these trivial debts and thousands of dollars were recovered for New York seamstresses through court proceedings.

At this time, during the forties, those who did this kind of work were chiefly American-born. In 1845 the *New York Tribune* stated that a large majority of the 10,000 sewing women of New York were natives of the United States.

In the middle of the 19th Century and earlier, women were engaged in many industries outside the home besides manufacturing establishments. The latter attracted women in larger numbers, and do now because as was previously stated the factories largely took over the home occupations of woman and she naturally found occupation in the factory if she sought it outside the home.

Women have always prepared the food in the home and under changing industrial conditions they have become cooks in families and boarding-houses and latterly are working in considerable numbers in bake-shops. When bakeries for supplying the market were established the work was done by men, but more recently women have engaged in this work in increasing numbers.

In 1850 the proportion of women and girls employed in the preparation of food and kindred products was 2.5 per cent. and in 1890 it was 22.5 per cent.

Large numbers of women are now employed in fruit and vegetable canning establishments. They are also employed in the canning of fish and oysters, and in the meat packing business both women and girls are employed.

It would, however, be quite beyond the scope of this paper to enumerate the various occupations of women at the present time or consider the conditions under which their work is done, except in a few instances.

The invention and introduction of the sewing machine in the early sixties made a great change in the work of sewing women. Not that they did less of this class of work, but that the sewing machine determined the movement of the sewing industry to the shop and the factory, and soon after the sweat-shop developed to large proportions.

Concerning stenographers, bookkeepers and others employed in private offices, investigations have not been and could not well be made, in regard to their health conditions except such as individual physicians might make with their patients. Those thus engaged are usually well treated and are a fortunate class of the women wage-earners. The fact that they are skilled workers and their number limited insures them better wages and permanency of employment. The bookkeeper or stenographer is not compelled to feel that there are several others waiting at the gate who could do her work equally well and who are willing to do it for less. This alone should be a lesson to women wage-earners in the advantages of special training to fit them for work. The advantage to a woman of an assured position cannot be stated in dollars and cents, for it means in a large measure that peace of mind that passeth understanding and raises somewhat the level of the individual life. It adds also to the stability of the employer's business and saves him from the degrading practice of playing the unemployed against the necessities of his faithful workers.

In the manufacture of cigars women have largely displaced men. Beginning in the later sixties when the Bohemian women, previously trained in this line of work, began coming to this country in large numbers, tenement house making of cigars grew to large proportions. More recently, owing to close inspection of tenement manufacturing, it has decreased and cigars are now chiefly made in public manufactories. Women comprise more than half the workers, and in some factories they make up 90 and 95 per cent. of the entire force. The work is confining and sedentary.

The report of the International Union showed that in 1890, 49 per cent. of their deceased members died of tuberculosis and in 1900, 33 per cent. died of the same disease.

In the clothing industry over 400,000 women were employed in 1900. In this line, as in others of the manufacturing industries, foreigners predominate in increasing numbers. In clothing and other manufacturing, much of the work is done in private homes and often under very unhealthy conditions.

The report of the Commissioner of Labor on the ready-made clothing trade deals with the health and hygienic conditions of home workers. The report says: "As a class the home workers visited in New York are anemic and are poorly nourished individuals, living in overcrowded apartments in the most congested sections of the city......Overburdened mothers become negligent in their homes, filth results and their already subnormal standard of living drops still lower. The environment, in which some of the poorer finishers work, admits only of horrible conditions of life. You may find beds in a kitchen where lodgers sleep; and on the bed, mixed with the family's soiled bedding and clothing, are loaves of bread and other food, or on the floor or on greasy tables or anywhere. Nothing could be added to or taken from many of these homes to increase their squalor."[1]

The investigators say that "the most common conditions found among these workers were badly nourished bodies, pallor, anemia, catarrh, poor appetite, lack of animation, bad teeth, curved spines, stooped shoulders, hollow chests," etc. Mothers with infants work under these conditions, and we are not surprised to learn that in one block in New York City investigated, 92.2 per cent. of children born there die before they are five years old.

In clothing factories, in shoe factories, silk factories, metal trades, box factories, candy factories, canneries and the hundreds of occupations now open to women, in a very large proportion, certainly in a majority of cases, conditions exist that are highly injurious to the health of the workers.

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[1] Rept. Com. Labor, Vol. 2, p. 296.

Investigations show that of the many accidents that occur where machinery is used the majority happen just before the noon hour or before the evening closing time, that is, accidents usually occur when fatigue has made the worker less careful.

The pathologic effects of fatigue have been carefully studied and they are important as bearing upon the working conditions of men and women. Normally the activities of the body produce a destruction of tissue, the waste which gradually accumulates in the system, and which with proper periods of rest is slowly excreted. These waste products are poisonous and are depressing to the vitality and are analogous to such poisons as diphtheria or tetanus. They have been isolated and it has been found that when the blood of a fatigued animal is injected into an animal that has not been exercising, the latter animal shows all the signs of fatigue.

The overworked woman who does not, because she can not, take sufficient time for rest, accumulates in her blood these depressing poisons. In addition to poor food, bad air and other unhygienic conditions against which she strives, she must also carry this additional burden of a subtle poison that dulls her senses, slows her thinking, obtunds her moral sense, reduces her working capacity and lessens her resistance to disease. There is, of course, much sickness among the workers suffering from chronic fatigue and unhygienic conditions. The women whose wages are least pay, it is found, a larger proportion for medical care than those who receive a higher wage.

To illustrate the matter of fatigue:

> Anna Flodin,[1] in the busy season, stitched 1568 yards of machine-sewing daily, in fastening belts to cheap corset covers. If she failed to produce the maximum amount, the forewoman threatened to reduce her wages. For ten hours a day of this work she received $6 per week, less a fine of a half hour if she were 5 minutes late, while she also had to pay for the broken needles of this fierce speed and all thread that she used. Of the effects of her work she said:
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> "We only went from bed to work, and from work to bed again, and some-

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[1] Clark and Wyatt, "Making both Ends Meet," p. 130.

times if we sat up a little while at home, we were so tired we could not speak to the rest, and we hardly knew what they were talking about. And still, although there was nothing for us but bed and machine, we could not earn enough to take care of ourselves through the slack season."

This is not an extreme illustration. This girl's life is duplicated in thousands and thousands of cases to-day where endurance is driven to the limit by the remorseless demands of industry (so-called) while shiploads of emigrants are waiting to take the places of these when they succumb in the killing pace.

Of the half million women in the clothing trade in this country, a few may possibly escape serious injury from the effects of their employment, but for the great mass of these workers not many figures need to be deducted from the sum total of the tragic story of Anna Flodin.

When we consider that several millions of women and several hundred thousand girls are wage-earners in the United States and that these millions are to furnish their proportion of mothers of the next generation, we do not need an expert in race degeneracy to tell us what their contribution to that generation is liable to be like.

The employment of women in mercantile establishments is an important modern industrial development.

The investigations of the Commissioner of Labor show the average wage of women thus employed is $6.67 per week, and this average would be smaller but for the inclusion of the earnings of a very few, who by great skill can earn large wages. The necessary expenses of these women with the most meager allowance is $5.18. It is plain that proper living conditions are not possible with such a wage. Two-thirds of them said they could afford nothing for amusement.

Managers stated to the investigators that the wages they could afford to pay would not support a woman unless she lived at home. As almost one-fourth of the women employed in department stores were "adrift," that is without a home, and two-thirds of waitresses investigated were "adrift," the menace to the morals of these people is apparent. Under the best circumstances, work is such that they cannot probably continue at it many years. Here are women wage-earners whose numbers mount into the thousands and who, however hard they may work, live always upon the borderland of the necessitous and can lay by nothing for sickness, unemployment or old age. The anxiety and depression that comes to those whose living is so precarious and whose future is so uncertain must of itself be a drag upon the energies and the working capacity.

A consideration of the relation of women to industry must include that of girl wage-earners. Many of the latter are employed in manufactories, though a very large proportion are working at home but really doing factory work.

Great progress has been made during the past few years in the legal restriction and regulation of child labor. Mrs. Rhita Child Dorr says that in 1911 of the forty-one states that held legislative sessions thirty passed child labor laws and ten states strengthened existing laws to the extent that the standard in them may now be said to be high.

Many of the statutes now in existence are not enforced. Those who profit by turning the lives and labor of little children into factory products are sleeplessly vigilant in evading or defeating child labor laws, and it is not easy to enforce a statute of this kind when the child and the parent are, as is so often the case, in collusion with the employer.

One of the worst forms of child labor is that which is found in the home where the mother doing work at home for a factory has her children help. Thousands of these homes are nothing less than sweat-shops, though public prejudice in favor of the assumed sacredness of the home has been sufficient, so far, to prevent the passage of laws that would forbid it.

So far as the family is concerned, we of the 20th century are living under conditions that are far different from those of the early 19th Century. The old family life is passing. The separateness and privacy of life grows less. The very foundation of modern life is intimacy of relation, the daily individual contact and attrition of people and an increasing interdependence. Life on the old farm or in the country village was simple and healthful. There was no crowding where neighbors were relatively distant and spaces wide. Statutes and ordinances for the health of such were hardly necessary or, if they existed, were pretty certain to grow musty from neglect.

The swarming life of the modern tenement where neighbors are only separated by a six-inch wall and where crippled and baffled humanity struggles for existence with resulting disease, degeneracy and crime, has brought to society new ideas of human relations, and a new conscience, and new remedies are necessary.

Society is to be tested more by its failures than its successes. These failures, accumulating like drift in a rising flood and represented by increasing thousands of wrecked humanity congregated in localities, require that we readjust old theories to new problems. Heretofore, our successes have occupied us; the time has come when the failures require attention, for they are a serious threat to the health and order of society.

The vigor and efficiency of the individual determine national efficiency and in the interest of self-preservation the Nation's care should reach the lowliest of its citizens. That a man's house is his castle and is inviolable was once a protection. Now it may be a menace permitting ruinous life conditions, though the old theory may still survive in the archaic opinions of certain Judges.

In 1885, the State of New York passed a law forbidding the manufacture of cigars in tenement houses as it was found that the conditions under which these cigars were made were bad. The New York Court of Appeals, then as now applying medieval logic to 19th and 20th Century conditions, declared this law unconstitutional. Since that decision the law permits tenement house manufacturing under license, and now under what the court called the "Hallowed Associations of the home" child labor in its worst form is carried on in tenements. In New York city manufacturing establishments in which children were largely employed, there were 14,000 licensed tenements in 1911. In the clothing trades, which thrive under this system, there is in one block in the lower east side, seventy-seven factories employing 40,000 people. Here children are made to work by their parents for long hours under conditions of filth and squalor that would be injurious to the lower animals.

In the lines of industry where these women and children are employed, competition is intense, economy that trims at every corner is rigidly enforced. Pressure of this sort will be greatest at the relatively weakest point, and women workers, whose positions can always be easily filled, suffer the most.

This attempt to illustrate the relation of woman to modern industry has, of necessity, been fragmentary. It however involves questions of vital importance. It is not local; it is even more than national, for it is world-wide. The movement of women into industrial life is a world movement. It is as pronounced in Paris and Budapest as in Chicago or Boston. And it will not stop; on the contrary, it will go on. The question for us of this day to decide is how by statute or otherwise to adapt the life condition of wage-earners to the demands of health and wholesome living.

Great business combinations, largely through the labor of humble people, grow to dimensions where figures lose their significance; prosperity visits the land, the annual statements of our increased wealth fill pages in the daily press. The wage-earner knows of this prosperity through the rush to supply the market, the overtime that adds night hours to the long day, and to the ruinous "speeding up," that prosperity demands.

More than 6,000,000 women are wage-earners in this country, and from the standpoint of health and race preservation, the large majority are working under conditions that are bad. In addition to this 1,500,000 children under 16 years of age, many of them girls, are also working under equally bad conditions, though the best conditions would not justify their employment.

Many of the hardships of women wage-earners are due to their lack of previous training. Unintelligent work means lack of interest in work, and this is always demoralizing for it leads to haphazard and indifferent ways of doing things, careless thinking and an inevitable dulling of the mind. We are *made* by our work, for in the *doing* of things character is made and lives are shaped, and whatever captains of industry may plan and censuses report, it is eternally true that the most important product of industry are men and women. If those who enter our industries come out more intelligent and more vigorous, better men and women, the best wealth has been created. If they are harmed by their work, if their development is dwarfed and their lives made hard and meager, then the so-called wealth they may have created is not a thing to be proud of; on the contrary, it is a false wealth gained at the price of blood of human beings, and is an advertisement of a nation's shame.

One of the first remedies for the betterment of the life of the woman wage-earner is that she have special preliminary training for an occupation. Young women now enter industries as a makeshift, and only temporarily. Even if their health were not injured, their lack of serious interest in work impairs the work-spirit with a lowering of the life energies of the individual. There ought to be special provision by which a girl that seeks employment in any line should first show evidence of special training. This training should be supplied by the State as a part of the general scheme of compulsory education. Young women would thereby have greater permanency of employment, better wages, and would stand a better chance of escaping the evils that beset the lives of those whose connection with industry is accidental and transitory.

Another demand for women wage-earners is that they be paid a wage that will give them good food, a comfortable home and insure them sufficient leisure for necessary rest and a certain amount of self-culture.

The wages now paid women do not answer this demand. Under-pay for woman means under-living with its train of evils. It denies them the comforts, the rest and the recreation that are necessary to the daily rebuilding of the body which reconstitutes the physical energies and maintains a vigorous moral tone. It makes young women weak in precisely those ways in which they should be strong, and by an insidious process of devitalization numbers of them are carried down the way that so many of their predecessors have gone; some early wear out, others are easy victims to a life of shame; many pass into an old age of dependence.

The presence of woman in industry is interwoven with the deeper human problems of our national life, for it is of the fireside and the school and is a major element in the matter of human conservation.

It directly concerns those obscure millions, the humble people whose lives and labor are at the foundation of our institutions. The permanency of our democracy largely depends upon them; not upon armaments, nor national wealth, nor constitutions, nor great men. These fine growths have roots in humble lives.

Employers everywhere are demanding higher standards for workers, better equipment physically and the trained intelligence that makes for a greater efficiency. To this end men must not only be free in a legal sense but they must have that larger freedom which is as yet imperfectly provided for in statutes, and which will require that a man's daily work shall not only not be injurious but, if possible, educative, and that his children shall be so conditioned and trained as to grow up to be desirable members of the community. This means a great advance over present conditions.

Our ideals of a great democracy will not be realized until, among other things, the humanizing significance and advantages of prosperity shall reach the humblest of our citizens; that they not only be rid of the dread of that kind of poverty that starves the energies and kills the spirit, but that they be prosperous in the newer and broader sense, having healthy homes, good food, vigorous bodies, and able to live hopefully and happily.

THE RELATION OF THE FOREIGN POPULATION TO THE MORTALITY RATES OF BOSTON.[1]

By WILLIAM H. DAVIS, M.D., Vital Statistician, Boston Health Department.

"Foreign Population" is an elastic expression which will be used in this paper to designate that part of the white population having foreign-born mothers.

Only in this Western Hemisphere are people from so many countries to be found dwelling together in the same climate, in the same city, and often in the same block.

What an opportunity, therefore, to study the various peoples to determine which are battling against great odds as indicated by excessive mortality and morbidity rates, and how possibly such rates may be reduced.

According to the 1900 census, 98 per cent. of Boston's population were white, 30 per cent. having mothers born in the United States, 31 per cent. mothers born in Ireland, 13 per cent. mothers born in Canada, and 23 per cent. mothers born in other foreign countries.

Table I gives for 1900 the census populations, deaths and death-rates by color, by sex, by age and of whites by birthplaces of mothers.

A few of the rates based upon very small numbers are not of great value.

Deaths of non-residents have been deducted in all calculations given in this paper, and deaths under the heading "Birthplaces of Mothers Unknown" have not been distributed, so that all rates given are doubtless somewhat too low for all nationalities.

Many of the rates are very startling.

Under five years of age those of Italian mothers had for males a mortality rate of 108 per thousand and for females a rate of 79, while those of mothers born in Germany had corresponding rates of 37 and 34.

Again, take the age period thirty to thirty-five years, the rates for those having mothers born in Ireland were 14 per thousand males and 12 per thousand females—a rate for males 7 times that of the Russians, $3^1/_2$ times that of the Italians or Scandinavians, and more than twice that of the English, Scotch or natives, and a rate for females twice that of the Scandinavians, Scotch, Italians or Russians, and 3 times that of the natives.

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[1] Read at the Thirty-seventh annual meeting of American Academy of Medicine, Atlantic City, June 1, 1912.

If, now, the rates of those having mothers born in the United States be taken as a standard and the rates for each age period and for each sex be applied to the corresponding population of those having mothers born in Ireland, a theoretical number of deaths is obtained. It is thus found that instead of the 3,967 actual deaths among those whose mothers were born in Ireland, there would have been but 2,400. The difference between these numbers represents the number of excess deaths and measures the influence of the Irish population in raising Boston's rate in 1900.

Using the same standard rates, the general death-rate of the city would have been 14.65 instead of the actual rate 19.40; that is to say, the 1,567 excess Irish deaths raised Boston's rate 2.79 or from 14.65 to 17.44.

Found in the same way, the other amounts which the foreign population raised Boston's rate were as follows: Canadians, 0.26; Italians, 0.25; Scotch, 0.04; Germans, 0.01; and other foreign, 0.01—making a total of 3.36.

The amounts which the foreign population lowered the rate were Russians and Poles, 0.14; Scandinavians, 0.06; and English and Welsh, 0.02—a total of 0.22. The net effect of the foreign population was, therefore, to raise Boston's rate 3.14 per 1,000. The balance of the raise was due partly to the colored population, which raised the rate 0.37, and partly to those having mothers whose birthplaces were unknown, who raised the rate 1.23 (see Table VI).

The rates for the various age periods are shown approximately in the two charts following Table I, the inverted V in each column showing the city's rate.

Those of Irish mothers were, therefore, the principal factor. Per 10,000 of their population they raised the city's rate 0.16, while the Italians per 10,000 of their population raised it 0.12, and the Canadians but 0.04.

The influence of the foreign population may be made clear in another way, namely, by applying the rates of each age period of each mother nativity for each sex to the corresponding division of the aggregate population.

In this way it has been found that if all of Boston's population had had mothers born in the United States the rate of the city fould have been 14.65; if all had had mothers born in Ireland the rate would have been 23.09; and had all been Italians the rate would have been 20.43; if all Canadians, the rate 16.30; if all Russians and Poles, the rate 15.71; if all Germans, the rate 14.24; if all English and Welsh, the rate 13.67; and if all Scandinavians, the rate 11.62.

If one scans the rates in Table I it is seen that in all the age periods between 15 and 70 years, both male and female, the rates of those having mothers born in Ireland were double the rates of those having mothers born in the United States.

But why such high rates among the Irish? What was the cause of this excessive mortality? Using the rates of those having mothers born in the United States as the standard, it is found for the males that 35 per cent. of the excess deaths were due to pulmonary tuberculosis. In the age period 15–19, 76 per cent. of the excess deaths were due to this cause, and in the successive age periods up to seventy years the percentages of excess deaths due to pulmonary tuberculosis were respectively, 56, 47, 47, 45, 31, 29, 19, 7, 18 and 13.

Other diseases important in accounting for the excess deaths were pneumonia, heart disease, nephritis, cancer, apoplexy, and alcoholism—alcoholism especially interesting as a cause of death, because of the possibility of some day eliminating it as an important factor in mortality rates. Though deaths credited to alcoholism never tell the whole story, for many deaths assigned to pneumonia, apoplexy, edema of the brain, diarrhea and enteritis, nephritis, and cirrhosis are undoubtedly due indirectly to alcohol. In 1900 of sixty-eight deaths from alcoholism forty-four had mothers born in Ireland.

Among the females also pulmonary tuberculosis was a most important factor, causing 27 per cent. of the excess deaths.

The causes of these excess deaths are given in more detail in Tables VII and VIII.

This high mortality among those of mothers born in Ireland was not confined in 1900 to Boston, for the Twelfth Census shows that for the whole registration area—containing then over twenty million people, for all ages above fifteen years, the general death-rates of those having mothers born in Ireland were higher than the rates of any other division of the white population.

So also in the registration area the death-rates from pulmonary tuberculosis and alcoholism in white persons over fifteen years of age were highest for those whose mothers were born in Ireland.

But for Ireland itself such very high rates were not found.

The death-rate for all Ireland in 1900 was 19.65, while had the Boston rates of those having mothers born in Ireland prevailed in Ireland its rate would have been 33 per cent. higher or 26.25 per 1,000 population. Likewise for pulmonary tuberculosis, Ireland's rate would have been raised 45 per cent. or from 22.60 to 32.78 per 10,000 population. But for cancer Ireland's rate would have remained practically unchanged, the actual rate being 6.09 and the theoretical rate 6.07 per 10,000. For alcoholism Ireland's rate was 4.06 per 100,000, and Boston's Irish rate 25.19.

For Dublin in 1900 the actual general mortality rate was 25.6, a rate slightly lower than the theoretical rate just given for all Ireland, while the actual rate for pulmonary tuberculosis in Dublin was 34.31 per 10,000, a rate slightly higher than the theoretical rate just given for all Ireland.

The reasons for such high rates among the Irish in this country are not fully known, though the severe winters and the excessive use of alcohol are undoubtedly important factors.

Those of Italian mother nativity also had very high rates, especially for children under five years, due principally to pneumonia, broncho-pneumonia and measles. In the registration area also, pneumonia and measles at all age periods had their highest rates among those of Italian mothers.

Cancer, on the other hand, had remarkably low rates among the Italians in Boston, and in the registration area the Italians had the lowest cancer rates. Again, it is well known that Italy has very low cancer rates, though just across the Alps in Switzerland cancer rates are high.

In contrast to the high rates already considered stand out the low rates of the Scandinavians and Russians.

The Scandinavians had the lowest rates from heart disease and nephritis, while the Russians and Poles had the lowest rates from pulmonary tuberculosis. Both of these divisions of the population had low rates from pneumonia, broncho-pneumonia and cancer, and it should be noted that in Boston in 1900 not a death from alcoholism was credited to these divisions of the population.

This enviable record held for the most part in the registration area where the Russians and Poles had the lowest rates from pulmonary tuberculosis, heart disease and nephritis, and were second only to the Italians in cancer and alcoholism, and where the Scandinavian cancer rate was next to the low rates of the Italians, Russians and Poles, and the Scandinavian rate for heart disease and nephritis was second only to that of the Russians and Poles.

The Germans in Boston also had low rates in 1900, and not a death from alcoholism.

Other differences in the 1900 rates for these various divisions of Boston's population are shown in the rate tables for tuberculosis, pneumonia, heart disease, nephritis and cancer (see Tables II–V).

So much for the year 1900.

Since that time immigration to the United States has continued unabated, 545,000 landing in Boston alone, and over 80,000 of these from Ireland. So that it seems probable that this division of the people in 1910 still maintained its 31 per cent. of the city's population. If such be the case a marked improvement is seen in the Irish influence upon the general mortality rate in 1910; for in 1900, 36.5 per cent. of all deaths were of those having mothers born in Ireland as against 32.8 per cent. in 1910.

TABLE I.—1900 CENSUS POPULATION, DEATHS (NON-RESIDENTS DEDUCTED), AND DEATH-RATES BY COLOR, BY SEX, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS.

Mother nativity.	Sex.		All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.
Aggregate		P.	560,892	12,473	11,006	11,557	11,406	10,919	57,361	48,896	42,362
		D.	10,880	2,339	589	330	230	164	3,652	328	123
		D. R.	19.40	187.53	53.52	28.55	20.16	15.02	63.67	6.71	2.90
Aggregate	Males	P.	274,922	6,215	5,574	5,761	5,664	5,414	28,628	24,495	21,202
		D.	5,533	1,309	330	160	131	78	2,008	161	55
		D. R.	20.13	210.62	59.20	27.77	23.13	14.41	70.14	6.57	2.59
	Females	P.	285,970	6,258	5,432	5,796	5,742	5,505	28,733	24,401	21,160
		D.	5,347	1,030	259	170	99	86	1,644	167	68
		D. R	18.70	164.59	47.68	29.33	17.24	15.62	57.22	6.84	3.21
WHITES.											
Aggregate		P.	548,083	12,260	10,835	11,354	11,237	10,729	56,415	48,185	41,764
		D.	10,519	2,267	563	320	224	157	3,531	321	115
		D. R.	19.19	184.91	51.96	28.18	19.93	14.63	62.59	6.66	2.75
Aggregate	Males	P.	267,822	6,124	5,494	5,665	5,583	5,324	28,190	24,180	20,927
		D.	5,335	1,273	317	153	128	75	1,946	158	52
		D. R.	19.92	207.87	57.70	27.01	22.93	14.09	69.03	6.53	2.48
	Females	P.	280,261	6,136	5,341	5,689	5,654	5,405	28,225	24,005	20,837
		D.	5,184	994	246	167	96	82	1,585	163	63
		D. R.	18.50	161.99	46.06	29.35	16.98	15.17	56.16	6.79	3.02
Mothers born in United States	Males	P.	83,512	2,075	1,892	1,950	1,881	1,792	9,590	8,286	7,333
		D.	1,428	458	84	46	34	26	648	47	17
		D. R.	17.10	220.72	44.40	23.59	18.08	14.51	67.57	5.67	2.32
	Females	P.	85,571	2,017	1,892	1,983	1,980	1,864	9,736	8,222	7,257
		D.	1,407	358	69	46	25	26	524	54	17
		D. R.	16.44	177.49	36.47	23.20	12.63	13.95	53.82	6.57	2.34

Mothers born in Ireland	Males	P.	82,409	1,597	1,403	1,484	1,414	1,417	7,315	6,109	5,154
		D.	1,950	354	85	38	34	23	534	36	13
		D. R.	23.66	221.67	60.58	25.61	24.05	16.23	73.00	5.89	2.52
	Females	P.	92,296	1,596	1,353	1,417	1,441	1,360	7,167	6,140	5,244
		D.	2,019	259	74	53	31	19	436	44	19
		D. R.	21.88	162.28	54.69	37.40	21.51	13.97	60.83	7.17	3.62
Mothers born in Germany.....	Males	P.	12,202	195	195	161	188	206	945	985	940
		D.	172	25	4	3	3	....	35	10	2
		D. R.	14.10	128.21	20.51	18.63	15.96	....	37.04	10.15	2.13
	Females	P.	11,702	171	169	192	170	191	893	957	905
		D.	154	14	6	3	5	2	30	8	2
		D. R.	13.16	81.87	35.50	15.63	29.41	10.47	33.59	8.36	2.21
Mothers born in England and Wales.	Males	P.	11,936	201	193	172	190	200	956	954	887
		D.	174	30	6	4	5	4	49	9	2
		D. R.	14.58	149.25	31.09	23.26	26.32	20.00	51.26	9.43	2.25
	Females	P.	11,912	194	172	186	203	212	967	952	869
		D.	144	16	5	8	2	1	32	5	4
		D. R.	12.09	82.47	29.07	43.01	9.85	4.72	33.09	5.25	4.60
Mothers born in Canada.	Males	P.	31,718	813	735	765	767	695	3,775	3,282	2,803
		D.	535	167	38	21	23	9	258	33	9
		D. R.	16.87	205.41	51.70	27.45	29.99	12.95	68.34	10.05	3.21
	Females	P.	38,811	840	732	735	754	734	3,795	3,250	2,990
		D.	529	141	28	24	8	17	218	23	11
		D. R.	13.63	167.86	38.25	32.65	10.61	23.16	57.44	7.08	3.68
Mothers born in Scandinavia.....	Males	P.	5,430	149	144	135	136	119	683	513	386
		D.	54	21	2	3	4	3	33	......	1
		D. R.	9.94	140.94	13.89	22.22	29.41	25.21	48.32	......	2.59
	Females	P.	5,411	154	126	138	129	125	672	522	354
		D.	63	18	2	2	3	2	27	3	1
		D. R.	11.64	116.88	15.87	14.49	23.26	16.00	40.18	5.75	2.82
Mothers born in Scotland	Males	P.	5,069	59	76	69	67	63	334	304	290
		D.	79	13	1	1	4	2	21	3	......
		D. R.	15.58	219.83	13.16	14.49	59.70	31.75	62.87	9.87	......
	Females	P.	5,518	63	55	67	63	75	323	322	336
		D.	85	7	1	2	1	3	14	1	1
		D. R.	15.40	111.11	18.18	29.85	15.87	40.00	43.34	3.11	2.98

TABLE I.—1900 CENSUS POPULATION, DEATHS (NON-RESIDENTS DEDUCTED), AND DEATH-RATES BY COLOR, BY SEX, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS (*Continued*).

Mother nativity.	Sex.		All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.
Mothers born in Italy...	Males	P.	11,603	400	319	337	299	257	1,612	1,225	954
		D.	285	93	52	16	9	4	174	10	1
		D. R.	24.56	232.50	163.01	47.48	30.10	15.56	107.94	8.16	1.05
	Females	P.	8,678	443	319	346	310	257	1,675	1,138	858
		D.	199	72	35	12	9	5	133	14	3
		D. R.	22.92	162.53	109.72	34.68	29.03	19.46	79.40	12.30	3.50
Mothers born in France.	Males	P.	1,000	11	13	9	15	9	57	49	46
		D.	14	4	......	1	....	....	5	1	1
		D. R.	14.00	363.64	......	111.11	....	....	87.72	20.40	21.74
	Females	P.	936	11	5	11	5	7	39	47	50
		D.	10	1	......	......	....	....	1	......	......
		D. R.	10.68	90.91	......	......	....	....	25.64	......	......
Mothers born in Russia and Poland.......	Males	P.	15,224	498	415	478	501	467	2,359	1,961	1,660
		D.	182	52	28	17	9	4	110	6	3
		D. R.	11.95	104.42	67.47	35.56	17.96	8.57	46.63	3.06	1.81
	Females	P.	13,887	514	408	501	479	479	2,381	1,959	1,579
		D.	181	69	17	9	7	5	107	8	3
		D. R.	13.03	134.24	41.67	17.96	14.61	10.44	44.94	4.08	1.90
Mothers born in other countries..	Males	P.	5,126	111	101	92	102	86	492	434	404
		D.	70	23	10	2	2	....	37	1	1
		D. R.	13.66	207.21	99.01	21.74	19.61	....	75.20	2.30	2.48
	Females	P.	4,214	122	93	94	105	89	503	427	343
		D.	70	20	5	3	3	2	33	3	......
		D. R.	16.61	163.93	53.76	31.91	28.57	22.47	65.61	7.03	......

Nativity unknown....	Males	P.	2,593	15	8	13	23	13	72	78	70
		D.	392	33	7	1	1	....	42	2	2
		D. R.	....	......	......	......	....	....	.....	......	......
	Females	P.	1,325	11	17	19	15	12	74	69	52
		D.	323	19	4	5	2	....	30	......	2
		D. R.	....	......	......	......	....	....	.....	......	......
COLORED....	Males	P.	7,100	91	80	96	81	90	438	315	275
		D.	198	36	14	7	3	3	63	3	3
		D. R.	27.89	395.60	175.00	72.92	37.04	33.33	143.84	9.52	10.91
	Females	P.	5,709	122	91	107	88	100	508	396	323
		D.	163	36	13	3	3	4	59	4	5
		D. R.	28.55	295.08	142.96	28.04	34.09	40.00	116.14	10.10	15.48

TABLE I.—1900 CENSUS POPULATION, DEATHS (NON-RESIDENTS DEDUCTED), AND DEATH-RATES BY COLOR, BY SEX, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS (*Continued*).

Mother nativity.	Sex.		15 to 19 years.	20 to 24 years.	25 to 29 years.	30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.
Aggregate...	....	P.	42,254	57,860	64,882	55,722	48,547	36,918	28,403	24,323	16,687
		D.	224	409	594	519	553	477	449	521	533
		D. R.	5.30	7.07	9.16	9.31	11.39	12.92	15.81	21.42	31.94
Aggregate...	Males	P.	19,965	26,199	31,759	28,603	24,862	18,886	13,981	11,929	7,977
		D.	117	210	302	280	307	249	242	269	276
		D. R.	5.86	8.02	9.51	9.79	12.35	13.18	17.31	22.55	34.60
	Females	P.	22,289	31,661	33,123	27,119	23,685	18,032	14,422	12,394	8,710
		D.	107	199	292	239	246	228	207	252	257
		D. R.	4.80	6.29	8.82	8.81	10.39	12.64	14.35	20.33	29.51
WHITES.											
Aggregate...	....	P.	41,488	56,306	62,904	54,039	47,100	35,935	27,628	23,761	16,428
		D.	216	392	562	497	528	450	426	500	519
		D. R.	5.21	6.96	8.93	9.20	11.21	12.52	15.42	21.04	31.59
Aggregate...	Males	P .	19,593	25,399	30,654	27,567	23,958	18,262	13,514	11,586	7,839
		D.	115	201	283	268	289	237	225	254	265
		D. R.	5.87	7.95	9.23	9.72	12.06	12.98	16.65	21.92	33.81
	Females	P.	21,895	30,907	32,250	26,472	23,142	17,673	14,114	12,175	8,589
		D.	101	191	279	229	239	213	201	246	254
		D. R.	4.61	6.18	8.65	8.65	10.33	12.05	14.24	20.21	29.57
Mothers born in United States.....	Males	P.	6,750	8,149	8,568	6,899	5,716	5,092	4,232	3,936	2,900
		D.	26	37	45	39	38	33	52	60	64
		D. R.	3.85	4.54	5.25	5.65	6.65	6.48	12.29	15.24	22.07
	Females	P.	7,133	8,288	7,983	6,358	5,505	5,026	4,508	4,149	3,198
		D.	27	36	46	26	29	33	45	50	59
		D. R.	3.79	4.34	5.76	4.09	5.27	6.57	9.98	12.05	18.45

Mothers born in Ireland..	Males	P.	5,091	7,700	10,357	9.753	8,813	6,383	4,601	3,886	2,511
		D.	37	91	139	141	151	124	92	112	119
		D. R.	7.27	11.82	13.42	14.46	17.13	19.43	20.00	28.82	47.39
	Females	P.	6,012	10,572	12,326	10,072	8,969	6,438	5,099	4,464	2,979
		D.	37	80	124	118	129	101	86	125	119
		D. R.	6.15	7.57	10.06	11.72	14.38	15.69	16.87	28.00	39.95
Mothers born in Germany.....	Males	P.	910	1,041	1,165	1,314	1,229	1,067	689	632	455
		D.	1	7	14	11	7	7	8	11	10
		D. R.	1.10	6.72	12.02	8.37	5.70	6.56	11.61	17.41	21.98
	Females	P.	956	1,189	1,249	1,237	1,075	875	623	516	370
		D.	5	5	8	11	8	10	12	4	11
		D. R.	5.23	4.21	6.41	8.89	7.44	11.43	19.26	7.75	29.73
Mothers born in England and Wales.	Males	P.	855	929	1,259	1,323	1,181	928	756	687	458
		D.	3	5	8	7	9	11	5	10	9
		D. R.	3.51	5.38	6.35	5.29	7.62	11.85	6.61	14.56	19.65
	Females	P.	841	1,159	1,282	1,142	1,199	910	688	613	441
		D.	4	5	6	10	3	9	6	13	4
		D. R.	4.76	4.31	4.68	8.76	2.50	9.89	8.72	21.21	9.07
Mothers born in Canada..	Males	P.	2,657	3,545	4,144	3,419	2,860	1,760	1,158	872	562
		D.	22	34	31	33	27	19	15	12	10
		D. R.	8.28	9.59	7.48	9.65	9.44	10.80	12.95	13.76	17.79
	Females	P.	3,359	5,451	5,272	4,092	3,389	2,190	1,602	1,221	822
		D.	14	39	40	29	32	20	17	17	12
		D. R.	4.17	7.15	7.59	7.09	9.44	9.13	10.61	13.92	14.60
Mothers born in Scandinavia.....	Males	P.	314	410	644	746	615	416	237	196	115
		D.	....	......	4	3	5	1	1	1	1
		D. R.	....	......	6.21	4.02	8.13	2.40	4.22	5.10	8.70
	Females	P.	362	674	763	645	500	344	199	125	92
		D.	1	3	9	3	3	3	.....	......	......
		D. R.	2.76	4.45	11.80	4.65	6.00	8.72	.....	......	......

Table I.—1900 Census Population, Deaths (Non-Residents Deducted), and Death-Rates by Color, by Sex, by Age and of Whites by Birthplaces of Mothers (*Continued*).

Mother nativity.	Sex.		15 to 19 years.	20 to 24 years.	25 to 29 years.	30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.
Mothers born in Scotland......	Males	P.	275	349	512	647	577	439	390	349	237
		D.	1	3	4	3	6	4	3	3	4
		D. R.	3.64	8.60	7.81	4.64	10.40	9.11	7.69	8.60	16.88
	Females	P.	333	509	627	596	609	467	378	330	221
		D.	1	2	5	3	2	4	5	4	5
		D. R.	3.00	3.93	7.97	5.03	3.28	8.57	13.23	12.12	22.62
Mothers born in Italy...	Males	P.	857	1,086	1,374	1,338	1,011	833	504	371	181
		D.	11	11	15	6	10	8	10	5	7
		D. R.	12.84	10.13	10.92	4.48	9.89	9.60	19.84	13.48	38.67
	Females	P.	729	851	832	711	557	469	291	222	138
		D.	2	1	12	4	6	6	3	5	4
		D. R.	2.74	1.18	14.42	5.63	10.77	12.79	10.31	22.52	28.99
Mothers born in France.	Males	P.	46	88	117	131	96	90	89	61	43
		D.	1	1	......	......	....	....	1	1	1
		D. R.	21.74	11.36	......	......	....	....	11.24	16.39	23.26
	Females	P.	50	103	123	105	107	80	69	57	32
		D.	....	......	1	......	2	2	.....	1	......
		D. R.	....	......	8.13	......	18.69	25.00	.....	17.54	......

Mothers born in Russia and Poland.......	Males	P.	1,396	1,439	1,672	1,311	1,230	774	536	364	219
		D.	4	6	6	3	7	6	4	4	5
		D. R.	2.87	4.17	3.59	2.29	5.69	7.75	7.46	10.99	22.83
	Females	P.	1,670	1,544	1,255	969	825	573	434	304	179
		D.	4	8	10	6	5	4	3	3	8
		D. R.	2.40	5.18	7.97	6.19	6.06	6.98	6.91	9.87	44.69
Mothers born in other countries..	Males	P.	373	516	651	563	524	399	252	182	126
		D.	6	......	2	......	2	3	3	3	3
		D. R.	16.09	......	3.07	......	3.82	7.52	11.90	16.48	23.81
	Females	P.	389	454	438	451	341	248	185	135	97
		D.	4	2	6	5	1	3	.....	2	2
		D. R.	10.28	4.41	13.70	11.09	2.93	12.10	.....	14.81	20.62
Nativity unknown....	Males	P.	69	147	191	123	106	81	70	50	32
		D.	3	6	15	22	27	21	31	32	32
		D. R.	....	......	......	......	....	....	.....	......	......
	Females	P.	61	113	100	94	66	53	38	39	20
		D.	2	10	12	14	19	18	24	22	30
		D. R.	....	......	......	......	....	....	.....	......	......
COLORED....	Males	P.	372	800	1,105	1,036	904	624	467	343	138
		D.	2	9	18	12	18	12	17	15	11
		D. R.	5.38	11.25	16.29	11.58	19.91	19.23	36.40	43.73	79.71
	Females	P.	394	754	873	647	543	359	308	219	121
		D.	6	8	13	10	7	15	6	6	3
		D. R.	15.23	10.61	14.89	15.46	12.89	41.78	19.48	27.40	24.79

TABLE I.—1900 CENSUS POPULATION, DEATHS (NON-RESIDENTS DEDUCTED), AND DEATH-RATES BY COLOR, BY SEX, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS (*Continued*).

Mother nativity.	Sex.		60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95 + years.	Unknown.
Aggregate. . .	. . . .	P.	13,689	8,724	5,828	3,302	1,617	552	168	29	2,768
		D.	530	577	496	373	301	150	56	15	. . . .
		D. R.	38.72	66.14	85.11	112.96	186.15	271.74	333.33	517.24	. . . .
Aggregate. . .	Males	P.	6,168	3,800	2,387	1,299	585	176	41	13	1,967
		D.	263	262	209	148	108	48	16	3	. . . .
		D. R.	42.64	68.95	87.56	113.93	184.62	272.73	390.24	230.77	. . . .
	Females	P.	7,521	4,924	3,441	2,003	1,032	376	127	16	801
		D.	267	315	287	225	193	102	40	12	. . . .
		D. R.	35.50	63.97	83.41	112.33	187.02	271.28	314.96	750.00	. . . .
WHITES.											
Aggregate. . .	. . . .	P.	13,510	8,628	5,771	3,268	1,602	541	166	25	2,619
		D.	519	568	489	370	298	148	56	14	. . . .
		D. R.	38.42	65.83	84.73	113.22	186.02	273.57	337.35	560.00	. . . .
Aggregate. . .	Males	P.	6,078	3,750	2,367	1,286	583	173	39	13	1,864
		D.	255	257	208	148	107	48	16	3	. . . .
		D. R.	41.95	68.53	87.87	115.09	183.53	277.46	410.26	230.77	. . . .
	Females	P.	7,432	4,878	3,404	1,982	1,019	368	127	12	755
		D.	264	311	281	222	191	100	40	11	. . . .
		D. R.	35.52	63.76	82.55	112.01	187.44	271.74	314.96	916.67	. . . .
Mothers born in United States.	Males	P.	2,313	1,549	1,041	617	293	100	23	3	122
		D.	64	72	71	39	46	23	6	1	. . . .
		D. R.	27.67	46.48	68.20	63.21	157.00	230.00	260.87	333.3	. . . .
	Females	P.	2,803	1,955	1,505	1,005	573	231	67	5	64
		D.	60	75	73	88	87	51	23	4	. . . .
		D. R.	21.41	38.36	48.50	87.56	151.83	220.78	343.28	800.00	. . . .

Mothers born in Ireland..	Males	P.	2,055	1,206	715	343	166	42	13	7	189
		D.	101	108	55	51	29	9	6	2	....
		D. R.	49.15	89.55	76.92	148.69	174.70	214.29	461.54	285.71	....
	Females	P.	2,738	1,792	1,163	586	288	84	31	5	127
		D.	145	158	139	71	54	22	9	3	....
		D. R.	52.96	88.17	119.52	121.16	187.50	261.90	290.32	600.00	....
Mothers born in Germany.....	Males	P.	324	236	154	73	29	4	1	1	8
		D.	17	5	15	8	2	1	1	....	....
		D. R.	52.47	21.19	97.40	109.59	68.97	250.00	1,000.00	....	....
	Females	P.	339	225	160	89	23	10	4	....	7
		D.	6	9	6	10	6	2	1	....	....
		D. R.	17.70	40.00	37.50	112.36	260.87	200.00	250.00	....	....
Mothers born in England and Wales.	Males	P.	321	194	118	74	26	8	1	1	20
		D.	11	7	12	12	5	.....	.....	....	....
		D. R.	34.27	36.08	101.69	162.16	192.31	.....	.....	....	....
	Females	P.	334	210	153	81	39	12	8	....	12
		D.	6	10	7	9	5	3	2	1	....
		D. R.	17.96	47.62	45.75	111.11	128.21	250.00	250.00	....	....
Mothers born iu Canada.	Males	P.	371	223	143	68	21	5	.....	1	49
		D.	9	8	11	2	1	1	.....	....	....
		D. R.	24.26	35.87	76.92	29.41	47.62	200.00	.....	....	....
	Females	P.	644	312	199	103	53	15	9	....	43
		D.	16	15	3	13	6	4	.....	....	....
		D. R.	24.84	48.08	15.08	126.21	113.21	266.67	.....	....	....
Mothers born in Scandinavia.....	Males	P.	82	36	12	7	3	2	.....	....	13
		D.	1	2	....	1	.....	.....	.....	....	....
		D. R.	12.20	55.56	....	142.86	.....	.....	.....	....	....
	Females	P.	69	42	20	16	5	1	.....	....	6
		D.	1	3	3	1	2	.....	.....	....	....
		D. R.	14.49	71.43	150.00	62.50	400.00	.....	.....	....	....

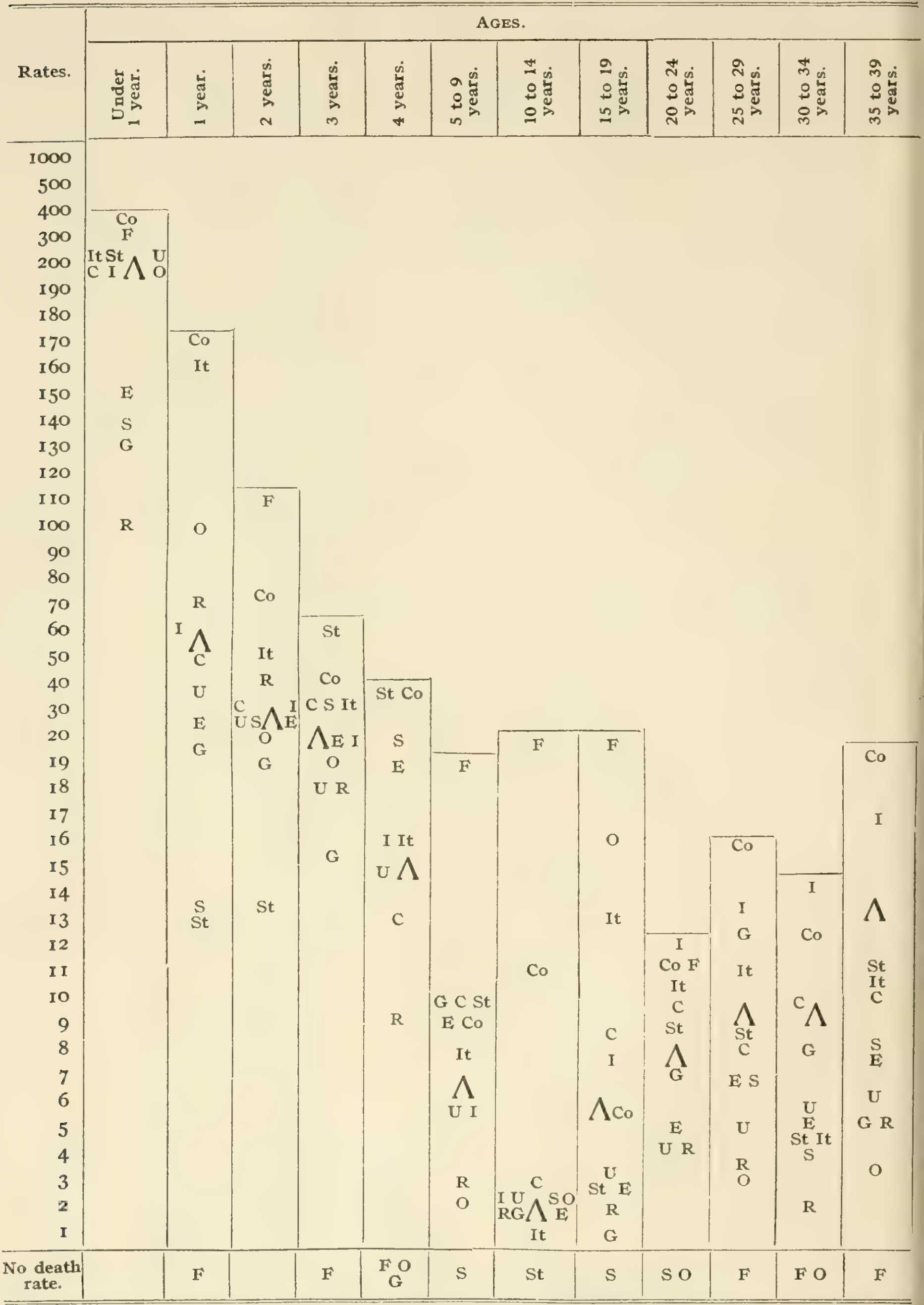
TABLE I.—1900 CENSUS POPULATION, DEATHS (NON-RESIDENTS DEDUCTED), AND DEATH-RATES BY COLOR, BY SEX, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS (*Continued*).

Mother nativity.	Sex.		60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95 + years.	Unknown.
Mothers born in Scotland......	Males	P.	154	97	60	33	15	1	....	......	6
		D.	9	2	2	6	3	1	1	......	......
		D. R.	58.44	20.62	33.33	181.82	200.00	1,000.00	....	......	......
	Females	P.	166	155	64	51	19	3	3	......	6
		D.	6	11	9	5	6	....	1	......	......
		D. R.	36.14	70.97	140.62	98.04	315.79	....	333.33	......	......
Mothers born in Italy...	Males	P.	144	45	39	13	7	1	1	......	7
		D.	6	6	2	2	....	1	....	......	......
		D. R.	41.67	133.33	51.28	153.85	....	1,000.00	....	......	......
	Females	P.	93	49	36	9	9	6	2	2	1
		D.	1	......	2	......	2	1	....	......	......
		D. R.	10.75	......	55.56	......	222.22	166.67	......	......	......
Mothers born in France.	Males	P.	44	19	12	8	....	1	....	......	3
		D.	1	1	......	......	....	....	....	......	......
		D. R.	22.73	52.63	......	......	....	....	....	......	......
	Females	P.	27	16	16	9	4	1	....	......	1
		D.	1	......	......	......	1	....	1	......	......
		D. R.	37.04	......	......	......	250.00	....	....	......	......

Mothers born in Russia and Poland.......	Males	P.	152	78	34	21	7	3	....	......	8
		D.	8	4	3	2	....	1	....	......	......
		D. R.	52.63	51.28	88.24	95.24	....	333.33	....	......	......
	Females	P.	118	54	30	7	1	2	....	......	3
		D.	1	4	3	2	1	....	1	......	......
		D. R.	8.47	74.07	100.00	285.71	1,000.00	....	....	......	......
Mothers born in other countries..	Males	P.	87	49	27	24	8	4	....	......	11
		D.	1	1	3	1	3	....	....	......	......
		D. R.	11.49	20.41	111.11	41.67	375.00	....	....	......	......
	Females	P.	76	53	45	22	4	....	2	......	1
		D.	1	4	1	1	1	1	....	......	......
		D. R.	13.16	75.47	22.22	45.45	250.00	....	....	......	......
Nativity unknown....	Males	P.	31	18	12	5	8	2	....	......	1,428
		D.	27	41	34	24	18	11	2	......	......
		D. R.	.....	......	......	......	....	....	....	......	......
	Females	P.	25	15	13	4	1	3	1	......	484
		D.	20	22	35	22	20	16	2	3	......
		D. R.	.....	......	......	......	....	....	....	......	......
COLORED....	Males	P.	90	50	20	13	2	3	2	......	103
		D.	8	5	1	......	1	....	....	......	......
		D. R.	88.89	100.00	50.00	......	500.00	....	....	......	......
	Females	P.	89	46	37	21	13	8	....	4	46
		D.	3	4	6	3	2	2	....	1	......
		D. R.	33.71	86.96	162.16	142.86	153.85	250.00	....	250.00	......

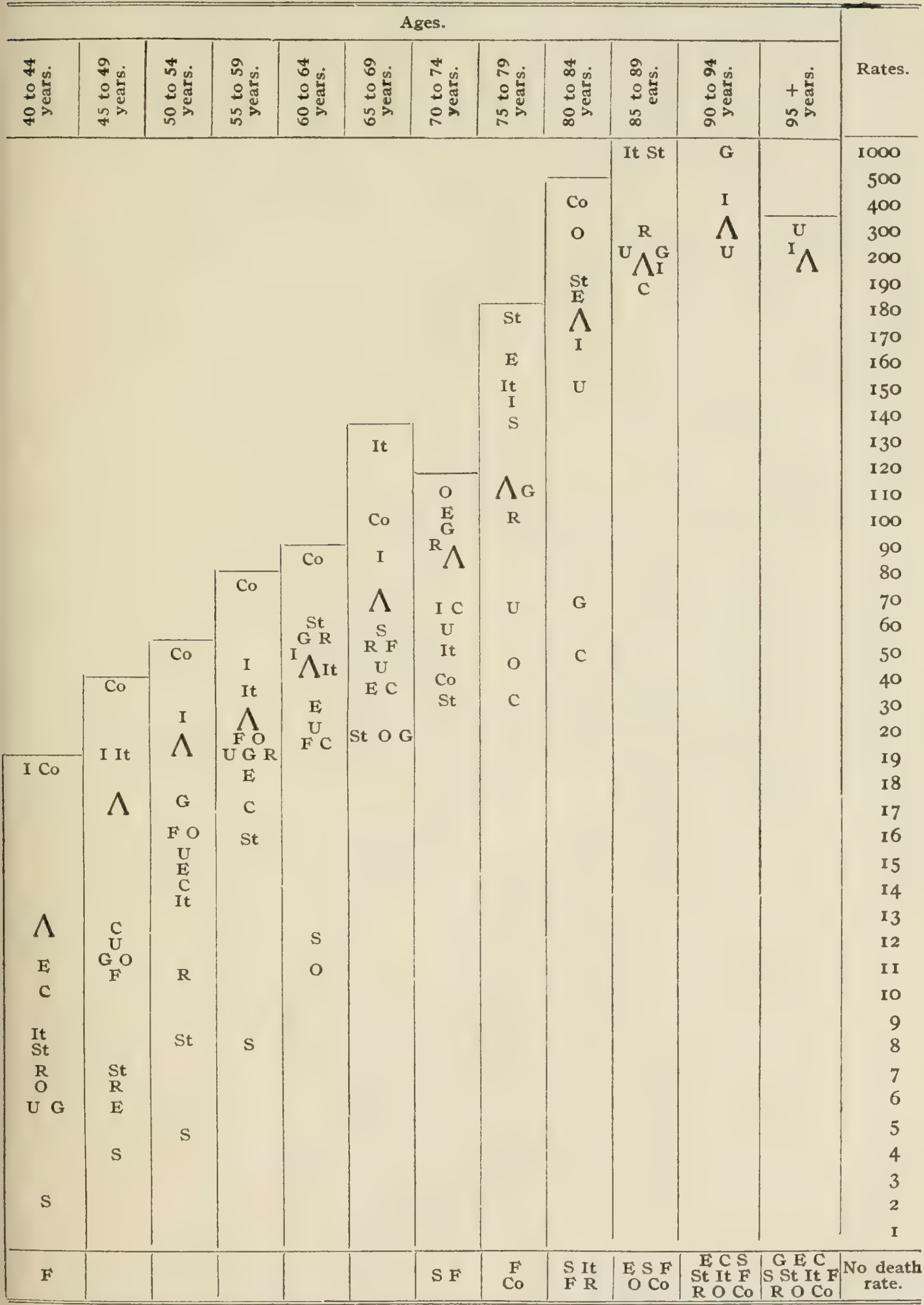
NOTE.—Some of the high rates given in these tables are due to very small populations. Such rates should not be compared with rates based upon large populations.

1900 DEATH-RATES OF MALES BY COLOR, BY AGE, AND OF WHITES BY BIRTHPLACES OF MOTHERS



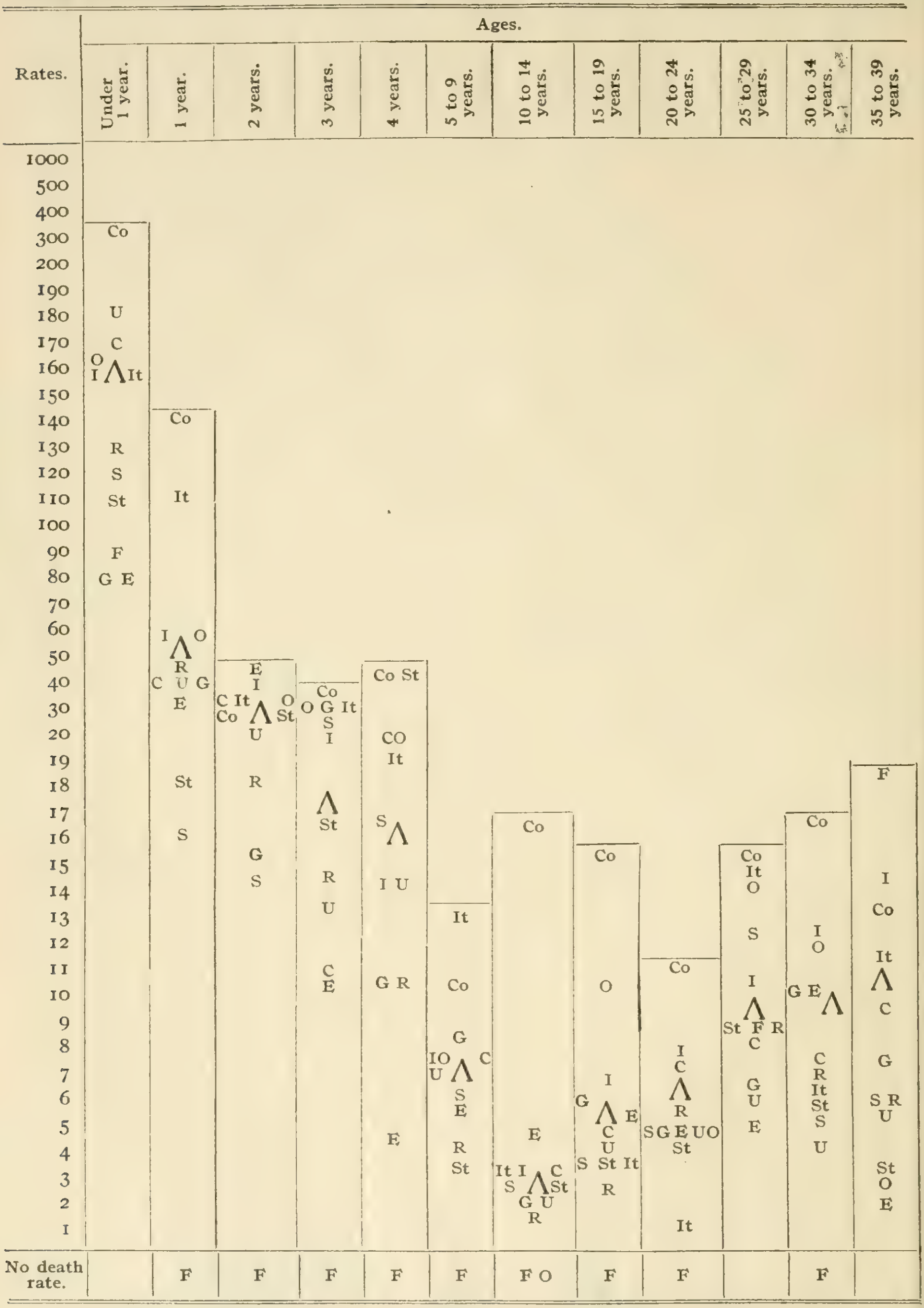
United States–U; Ireland–I; Germany–G; England and Wales–E; Canada–C; Scandinavia–S; Scotland–St

PER 1,000 OF CORRESPONDING POPULATION. (DEATHS OF NON-RESIDENTS DEDUCTED.)



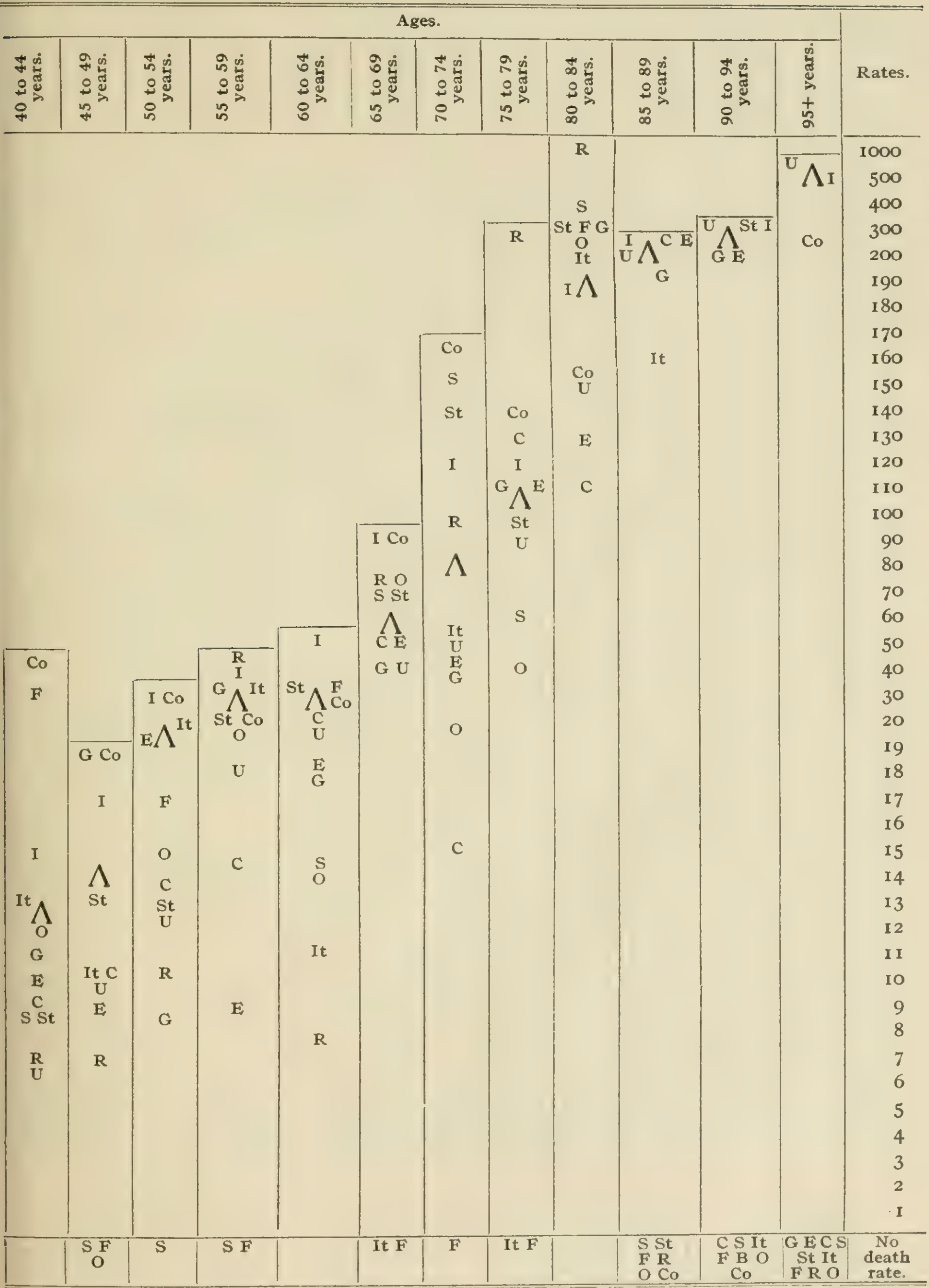
Italy–It; France–F; Russia and Poland–R; Other countries–O; Colored–Co; All males in Boston–Λ.

1900 DEATH-RATES OF FEMALES BY COLOR, BY AGE AND OF WHITES BY BIRTHPLACES OF MOTHERS



United States–U; Ireland–I; Germany–G; England and Wales–E; Canada–C; Scandinavia–S; Scotland–St;

PER 1,000 OF CORRESPONDING POPULATION. (DEATHS OF NON-RESIDENTS DEDUCTED.)



Italy–It; France–F; Russia and Poland–R; Other countries–O; Colored–Co; All females in Boston–Λ.

BOSTON,

TABLE II.—DEATH RATES FOR PULMONARY TUBERCULOSIS BY COLOR, BY SEX, BY AGE AND FOR

(Deaths of Non

Mother nativity.	Sex.	All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.
Aggregate	....	2.398	2.245	0.909	1.038	0.263	0.366	0.994	0.224	0.330	2.225
Aggregate	Males	2.655	2.896	0.718	1.215	0.530	0.369	1.188	0.122	0.141	2.254
	Females	2.151	1.598	1.105	0.863	......	0.363	0.800	0.328	0.520	2.198
For whites only. Aggregate	Males	2.532	2.449	0.728	1.059	0.358	0.188	0.993	0.124	0.096	2.246
	Females	2.069	1.467	0.562	0.879	......	0.185	0.638	0.250	0.432	2.055
Mothers born in United States	Males	1.269	3.373	......	1.026	......	......	1.181	.....	0.273	1.037
	Females	1.040	0.992	1.057	......	......	......	0.411	.....	0.138	1.822
Mothers born in Ireland	Males	4.284	2.505	1.426	1.348	0.707	......	1.231	0.164	.....	3.732
	Females	3.251	1.253	......	2.117	......	......	0.698	0.651	0.572	3.327
Mothers born in Germany	Males	2.459	......	......	......	......	......	......	1.015	.....	1.099
	Females	1.709	......	......	......	......	......	......	.....	1.105	1.046
Mothers born in England and Wales	Males	0.838	......	......	......	......	5.000	1.046	1.048	.....	......
	Females	1.175	......	5.814	......	......	......	1.034	.....	1.151	......
Mothers born in Canada	Males	2.554	2.460	......	2.614	......	......	1.060	.....	.....	4.140
	Females	2.190	2.381	......	1.361	......	......	0.791	0.308	1.003	2.382
Mothers born in Scandinavia	Males	1.105	......	......	......	......	......	......	.....	.....	......
	Females	2.218	6.494	......	7.246	......	......	2.976	1.916	.....	......
Mothers born in Scotland	Males	2.762	......	......	......	......	......	......	.....	.....	......
	Females	1.631	......	......	......	......	......	......	.....	.....	3.003
Mothers born in Italy	Males	1.896	2.500	3.134	......	......	......	1.241	.....	.....	2.334
	Females	0.461	......	......	......	......	......	......	.....	.....	......
Mothers born in France	Males	2.000	90.909	......	......	......	......	17.544	.....	.....	......
	Females	1.068	......	......	......	......	......	......	.....	.....	......
Mothers born in Russia and Poland	Males	0.723	......	......	......	1.996	......	0.424	.....	.....	......
	Females	0.288	1.946	......	......	......	2.088	0.840	.....	.....	......
Mothers born in other countries	Males	1.171	......	......	......	......	......	......	.....	.....	5.362
	Females	2.136	8.197	......	......	......	......	1.988	.....	.....	5.141
Nativity unknown, number of deaths	Males	37	......	1	......	......	......	1	.....	.....	2
	Females	33	......	......	......	......	......	......	.....	.....	......
Colored	Males	7.324	32.967	......	10.417	12.346	11.111	13.699	.....	3.636	2.688
	Females	6.131	8.197	32.967	......	......	10.000	9.843	5.051	6.192	10.152

Deaths classified according to the 1909 revision of the International

1900.

WHITES BY BIRTHPLACES OF MOTHERS PER 1,000 OF CORRESPONDING POPULATION.

Residents Deducted.)

20 to 24 years.	25 to 29 years.	30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.	60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95 + years.
3.007	3.961	3.123	3.234	3.440	2.570	2.837	2.697	1.826	3.783	2.745	3.937	3.092	1.812	......	
3.550	4.156	3.426	3.660	3.442	3.433	3.688	2.758	2.594	5.789	2.933	3.849	1.709	5.682	......	.....
2.558	3.774	2.802	2.787	3.438	1.733	2.017	2.641	1.197	2.234	2.616	3.994	3.876	.....	......	.....
3.543	3.947	3.301	3.548	3.286	3.108	3.625	2.551	2.468	5.600	2.957	3.888	1.715	5.780	......	.....
2.524	3.721	2.795	2.722	3.225	1.700	1.971	2.561	1.211	2.255	2.350	4.036	3.925	.....	......	.....
1.963	2.451	1.594	0.875	0.982	2.363	2.287	1.379	0.432	2.582	1.921	......	......	.....	......	.....
1.689	2.505	0.786	0.908	1.393	0.444	0.482	1.251	0.357	2.558	3.322	......	1.745	.....	......	.....
6.104	6.469	5.537	5.673	5.483	4.564	4.889	3.186	4.380	8.292	1.399	5.831	6.024	.....	......	.....
3.027	5.436	4.170	4.460	4.815	2.746	4.032	2.685	3.219	1.116	1.720	6.826	3.472	.....	......	.....
2.882	5.150	3.805	2.441	2.812	......	6.329	4.396	......	......	12.987	......	......	.....	......	.....
0.841	3.203	3.234	3.721	3.429	......	.....	......	......	4.444	......	11.236	......	.....	......	.....
......	1.589	0.756	1.693	3.233	......	.....	......	......	......	......	......	......	.....	......	.....
......	3.120	2.627	.....	1.099	1.453	1.631	4.535	......	......	......	......	......	.....	......	.....
4.231	2.897	3.217	3.846	3.977	2.591	2.294	3.559	2.695	......	6.993	14.706	......	.....	......	.....
3.486	2.656	2.444	2.361	5.023	2.497	.....	......	1.553	6.410	......	9.709	......	.....	......	.....
......	1.553	2.681	3.252	2.404	......	.....	......	......	......	......	......	......	.....	......	.....
2.967	3.932	3.101	4.000	......	......	.....	......	......	......	......	......	......	.....	......	.....
5.731	.....	1.546	6.932	2.278	5.128	5.731	......	......	10.309	......	30.303	......	.....	......	.....
1.965	1.595	1.678	.....	2.141	2.646	.....	......	......	6.452	15.625	......	52.632	.....	......	.....
3.683	2.911	1.495	1.978	1.200	1.984	.....	5.525	6.944	44.444	......	......	......	.....	......	.....
1.175	.....	1.406	.....	......	......	.....	14.493	......	......	......	......	......	.....	......	.....
11.364	.....	.....	.....	......	......	.....	......	......	......	......	......	......	.....	......	.....
......	8.130	.....	.....	......	......	.....	......	......	......	......	......	......	.....	......	.....
......	1.196	0.763	1.626	2.584	......	.....	4.566	13.158	......	......	......	......	.....	......	.....
......	0.797	.....	.....	......	......	.....	5.587	......	......	......	......	......	.....	......	.....
......	1.536	.....	1.908	......	3.968	.....	7.937	......	......	......	......	......	.....	......	.....
2.203	4.566	2.217	.....	......	......	7.407	......	......	......	......	......	......	.....	......	.....
2	5	3	3	2	4	6	1	1	4	1	1	......	1	......	.....
7	3	4	4	3	2	2	5	......	......	......	2	1	.....	......	.....
3.750	9.955	6.757	6.637	8.013	12.848	5.831	14.493	11.111	20.000	......	......	......	.....	......	.....
3.979	5.727	3.091	5.525	13.928	3.247	4.566	8.264	......	......	27.027	......	......	.....	......	.....

Classification of Causes of Death. Diseases 28 and 29 used for this table.

Boston,

Table III.—Death Rates for Pneumonia and Broncho-Pneumonia by Color, by Sex, by Age

(Deaths of Non-

Mother nativity.	Sex.	All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 to 24 years.
Aggregate	.....	2.057	17.718	10.903	3.894	1.841	0.550	7.200	0.327	0.189	0.379	0.553
Aggregate	Males	2.117	19.630	12.558	3.472	2.295	0.739	7.999	0.204	0.236	0.601	0.840
	Females	2.000	15.820	9.205	4.313	1.393	0.363	6.404	0.451	0.142	0.179	0.316
For Whites Only. Aggregate	Males	2.076	19.432	12.013	3.354	2.328	0.563	7.804	0.207	0.239	0.612	0.787
	Females	1.998	15.645	8.613	4.394	1.415	0.370	6.271	0.458	0.144	0.183	0.291
Mothers born in United States	Males	1.700	15.904	10.571	2.051	1.063	1.116	6.361	.....	0.409	0.593	0.245
	Females	1.624	14.378	5.285	4.034	1.010	.....	5.033	0.486	.....	.....	0.362
Mothers born in Ireland.	Males	2.463	16.907	9.979	1.348	2.829	0.706	6.562	0.164	0.388	0.589	1.429
	Females	2.460	14.411	10.347	3.528	2.082	.....	6.279	0.489	0.381	0.166	0.189
Mothers born in Germany	Males	0.738	10.256	5.128	.....	.....	.....	3.175	.....	.....	.....	0.961
	Females	1.196	.....	5.917	.....	.....	.....	1.120	1.045	.....	.....	0.841
Mothers born in England and Wales	Males	1.759	9.950	.....	5.814	.....	.....	3.138	2.096	.....	1.170	1.076
	Females	1.427	10.309	.....	5.376	.....	.....	3.102	.....	.....	1.189	0.863
Mothers born in Canada.	Males	1.230	19.680	8.163	3.832	2.608	.....	7.152	.....	.....	0.376	1.128
	Females	1.082	14.286	5.464	1.361	.....	.....	4.480	.....	.....	0.298	0.367
Mothers born in Scandinavia	Males	1.105	20.134	6.944	.....	.....	.....	5.736	.....	.....	.....	.....
	Females	0.924	12.987	.....	.....	7.752	8.000	5.952	.....	.....	.....	.....
Mothers born in Scotland	Males	0.789	33.898	.....	.....	14.925	.....	8.982	.....	.....	.....	.....
	Females	1.269	15.873	.....	.....	.....	.....	3.096	.....	.....	.....	.....
Mothers born in Italy	Males	5.774	70.000	47.022	17.804	10.033	.....	32.258	0.816	.....	.....	0.921
	Females	5.070	33.860	28.213	14.451	6.452	3.891	19.104	2.636	1.166	1.372	.....
Mothers born in France.	Males	3.000	.....	.....	111.11	.....	.....	17.544	.....	.....	21.739	.....
	Females	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Russia and Poland	Males	0.985	6.024	14.458	4.184	1.996	.....	5.087	.....	.....	.....	.....
	Females	1.296	11.673	14.706	5.988	.....	.....	6.300	.....	.....	.....	.....
Mothers born in other countries	Males	1.366	18.018	9.901	.....	.....	.....	6.098	.....	.....	5.362	.....
	Females	1.661	32.787	10.753	10.638	.....	.....	11.928	.....	.....	.....	.....
Nativity unknown, number of deaths	Males	40	1	2	.....	.....	.....	3	1	.....	.....	.....
	Females	40	2	1	1	.....	.....	4	.....	.....	.....	.....
Colored	Males	3.662	32.967	50.000	10.417	.....	11.111	20.595	.....	.....	.....	2.500
	Females	2.102	24.590	43.956	.....	.....	.....	13.780	.....	.....	.....	1.326

Deaths classified according to the 1909 revision of the International Classification

1900.

AND FOR WHITES BY BIRTHPLACES OF MOTHERS PER 1,000 OF CORRESPONDING POPULATION.
Residents Deducted.)

25 to 29 years.	30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.	60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95 + years.
0.724	1.023	1.154	1.409	1.796	2.302	3.476	5.041	8.368	9.094	13.022	21.645	25.362	23.810	34.483
0.913	1.049	1.368	1.271	2.146	2.347	3.385	4.864	9.474	7.122	8.468	13.675	28.409	.....	.....
0.543	0.996	0.929	1.553	1.456	2.259	3.559	5.185	7.514	10.462	15.976	26.163	23.936	31.496	62.500
0.881	1.052	1.377	1.205	1.998	2.330	3.189	4.442	9.600	7.182	8.553	13.722	28.902	.....	.....
0.496	1.020	0.951	1.584	1.417	2.300	3.609	5.248	7.585	10.576	15.641	26.497	24.457	31.496	83.333
0.584	0.725	1.400	0.196	1.890	1.524	2.069	4.323	4.519	7.685	3.241	13.652	20.000	.....	.....
0.376	0.315	0.363	0.995	1.553	0.723	1.876	1.427	3.581	5.316	13.930	24.433	17.316	59.701	.....
1.255	1.538	1.475	2.193	2.826	3.603	5.177	6.087	14.925	8.392	8.746	12.048	47.619	.....	.....
0.892	1.589	1.449	2.019	1.961	3.360	5.371	9.131	12.277	13.758	13.652	24.306	23.810	.....	.....
1.717	.....	.....	.....	1.451	.....	2.198	3.086	.....	.....	.....	.....	.....	.....	.....
.....	1.617	0.930	.....	.....	1.938	2.703	.....	4.455	18.750	22.472	.....	.....	.....	.....
1.589	0.756	2.540	2.155	.....	1.456	.....	3.115	.....	8.475	27.027	38.462	.....	.....	.....
.....	.....	.....	.....	1.453	4.894	.....	5.988	4.762	6.536	37.037	25.641	.....	.....	.....
.....	0.585	0.699	.....	.....	1.147	.....	.....	8.969	.....	.....	.....	.....	.....	.....
0.190	0.489	0.885	2.283	.....	1.638	1.217	7.764	8.070	.....	9.709	.....	.....	.....	.....
1.553	.....	1.626	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	2.907	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	6.494	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	9.050	6.024	12.903	15.625	.....	.....	.....	.....	.....
.....	1.495	1.978	2.401	3.968	2.695	11.050	.....	22.222	.....	76.923	.....	.....	.....	.....
.....	1.406	1.795	4.264	.....	.....	7.246	.....	.....	27.778	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	23.256	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	0.813	.....	.....	.....	.....	6.579	12.821	.....	.....	.....	.....	.....	.....
.....	1.032	.....	.....	2.304	.....	5.587	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	1.908	2.506	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	2.217	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	4	2	2	3	4	2	1	7	2	3	1	1	.....	.....
1	2	2	2	1	4	3	2	2	6	3	4	3	.....	1
1.810	0.965	1.105	3.212	6.424	2.916	14.493	33.333	.....	.....	.....	.....	.....	.....	.....
2.291	.....	.....	.....	3.247	.....	.....	.....	.....	.....	47.619	.....	.....	.....	.....

of Causes of Deaths. Diseases 91 and 92 used for this table.

Boston,

Table IV.—Death-Rates for Cancer by Color, by Sex, by Age and for Whites (Deaths of Non-

Mother nativity.	Sex.	All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 to 24 years.
Aggregate	.....	0.767	0.080	.....	.....	0.088	.....	0.035	.....	0.047	0.024	0.035
Aggregate	Males	0.567	0.161	.....	.....	0.177	.....	0.070	.....	0.047	0.051	.....
	Females	0.958	.....	.....	.....	.....	.....	.....	.....	0.047	.....	0.063
For Whites only. Aggregate	Males	0.573	0.163	.....	.....	0.179	.....	0.071	.....	0.048	0.051	.....
	Females	0.952	.....	.....	.....	.....	.....	.....	.....	0.048	.....	0.061
Mothers born in United States	Males	0.335	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.970	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Ireland	Males	0.667	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	1.040	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.095
Mothers born in Germany	Males	0.820	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in England and Wales	Males	0.838	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.839	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Canada	Males	0.473	1.230	.....			.....	0.265	.....	.....	0.376	.....
	Females	0.515	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Scandinavia	Males	0.368	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.370	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Scotland	Males	0.395	.....	.....	.....	14.925	.....	2.994	.....	.....	.....	.....
	Females	1.087	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Italy	Males	0.172	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.346	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in France	Males	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Russia and Poland	Males	0.526	.....	.....	.....	.....	.....	.....	.....	0.602	.....	.....
	Females	0.360	.....	.....	.....	.....	.....	.....	.....	0.633	.....	0.648
Mothers born in other countries	Males	0.585	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	0.474	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nativity unknown, number of deaths	Males	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colored	Males	0.423	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	1.226	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Deaths classified according to the 1909 revision of the International Classification

1900.

BY BIRTHPLACES OF MOTHERS PER 1,000 OF CORRESPONDING POPULATION.

Residents Deducted.)

25 to 29 years.	30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.	60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95 + years.
0.123	0.215	0.514	0.813	1.760	2.302	3.656	4.310	5.044	7.721	6.663	3.092	10.870	......	......
0.063	0.175	0.402	0.318	1.502	1.257	3.009	3.405	3.158	9.217	7.698	3.419	11.105	......	......
0.181	0.258	0.633	1.331	2.011	3.308	4.248	5.053	6.499	6.684	5.991	2.907	10.638		..
0.065	0.181	0.417	0.329	1.480	1.208	2.934	3.455	3.200	9.294	7.776	3.431	11.561		....
0.155	0.264	0.481	1.245	2.055	3.121	4.308	5.113	0.656	5.367	6.054	2.944	10.870	......	......
0.117	0.145	0.175	.....	0.709	......	1.379	2.162	0.646	6.724	6.483	......	......	......	......
0.251	0.157	0.363	0.796	1.775	2.892	4.690	3.924	4.604	4.651	6.965	3.490	12.987	......	......
0.097	0.103	0.454	0.627	1.956	1.544	3.186	4.866	3.317	4.196	14.577	......	......	......	......
0.081	0.199	0.892	0.777	1.765	3.136	3.021	7.305	7.254	7.739	6.826	......	11.905	......	......
.....	0.761	.....	0.937	2.903	1.582	.....	6.173	......	19.481	......	......	......	......	......
.....	0.808	.....	5.714	1.605	1.938	5.405	.....	4.444	......	......	......	......	......	......
.....	0.756	.....	.....	.....	1.456	2.183	.....	5.155	33.898	13.514	38.461	......	......	......
.....	.....	0.834	1.099	2.907	3.263	.....	.....	9.524	6.536	12.346	......	......	......	......
.....	0.292	.....	.....	3.454	2.294	3.559	2.695	......	13.986	......	......	......	......	......
.....	0.489	0.590	1.370	1.873	0.819	4.866	4.658	3.205	5.025	......	......	......	......	......
.....	.....	.....	.....	.....	5.102	8.696	.....	......	......	......	......	......	......	......
.....	.....	.....	.....	.....	......	.....	.....	23.810	50.000	......	......	......	......	......
.....	.....	.....	.....	.....	......	.....	.....	......	16.667	......	......	......	......	......
...	1.678	.....	2.141	.....	3.030	4.525	6.024	......	15.625	......	......	......	......	......
.....	.....	1.978	.....	.....	......	.....	.....	......	......	......	......	......	......	......
.....	.....	1.795	.....	3.436	3.505	.....	.....	......	......	......	......	......	......	......
.....	.....	.....	.....	.....	......	.....	.....	......	......	......	......	......	......	......
.....	.....	.....	.....	.....	......	.....	.....	......	......	......	......	......	......	......
.....	.....	2.439	.....	1.866	......	4.566	6.579	12.821	......	......	......	......	......	......
0.797	.....	.....	.....	.....	3.289	5.587	.....	......	......	......	......	......	......	......
.....	.....	.....	2.506	.....	10.989	.....	.....	......	......	......	......	......	......	......
.....	.....	.....	4.032	.....	......	.....	.....	18.868	......	......	......	......	......	......
.....	.....	.....	.....	1	1	6	2	5	2	......	......	1	......	......
1	.....	.....	2	5	5	5	3	4	3	......	1	......	......	......
.....	.....	.....	.....	2.141	2.915	7.246	.....	......	......	......	......	......	......	......
1.145	.....	1.842	5.571	.....	13.699	.....	.....	......	......	......	......	......	......	......

of Causes of Death. Diseases 39 to 45 inclusive used for this table.

BOSTON,

TABLE V.—DEATH-RATES FOR HEART DISEASE AND NEPHRITIS BY COLOR, BY SEX, BY AGE AND

(Deaths of Non-

Mother nativity.	Sex.	All ages.	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Under 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 to 24 years.	25 to 29 years.
Aggregate	.....	2.414	0.882	.....	.....	0.263	0.366	0.314	0.450	0.401	0.473	0.588	1.002
Aggregate	Males	2.408	0.644	.....	.....	.....	0.739	0.279	0.449	0.283	0.451	0.573	1.039
	Females	2.353	1.119	.....	.....	0.522	.....	0.348	0.451	0.520	0.494	0.600	0.966
For Whites Only. Aggregate	Males	2.371	0.653	.....	.....	.....	0.751	0.284	0.455	0.287	0.459	0.591	1.044
	Females	2.399	1.141	.....	.....	0.531	.....	0.354	0.458	0.528	0.457	0.615	0.930
Mothers born in United States	Males	2.323	0.964	.....	.....	.....	1.116	0.417	0.603	0.273	0.593	0.368	1.050
	Females	1.987	1.487	.....	.....	0.505	.....	0.411	0.243	0.965	0.281	0.603	0.501
Mothers born in Ireland	Males	2.949	0.626	.....	.....	.....	.....	0.137	0.491	0.388	0.393	1.169	1.158
	Females	3.370	1.253	.....	.....	0.694	.....	0.419	0.814	0.381	0.665	1.040	0.730
Mothers born in Germany	Males	1.639	.....	.....	.....	.....	.....	.....	.....	1.064	.....	0.961	0.858
	Females	1.965	.....	.....	.....	.....	.....	.....	.....	.....	1.046	.....	0.801
Mothers born in England and Wales	Males	2.095	.....	.....	.....	.....	.....	.....	2.096	.....	1.170	.....	.....
	Females	0.839	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Canada	Males	0.946	.....	.....	.....	.....	1.439	0.265	0.305	0.357	.....	0.564	0.483
	Females	1.185	1.190	.....	.....	.....	.....	0.264	0.615	0.334	0.298	0.367	1.328
Mothers born in Scandinavia	Males	0.368	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	1.294	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.621
Mothers born in Scotland	Males	2.565	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	1.993	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Italy	Males	1.724	.....	.....	.....	.....	3.891	0.620	.....	.....	1.167	.....	0.363
	Females	0.807	2.257	.....	.....	.....	.....	0.597	0.879	.....	.....	.....	1.202
Mothers born in France	Males	1.000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Females	2.137	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mothers born in Russia and Poland	Males	0.657	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.694	0.598
	Females	1.584	.....	.....	.....	.....	.....	.....	0.511	.....	0.599	0.648	3.187
Mothers born in other countries	Males	1.366	9.009	.....	.....	.....	.....	2.033	.....	.....	2.681	.....	1.536
	Females	1.424	.....	.....	.....	9.502	.....	1.988	.....	.....	.....	.....	2.283
Nativity unknown, number of deaths	Males	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
	Females	58	.....	.....	.....	.....	.....	.....	.....	1	1	.....	1
Colored	Males	3.803	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.905
	Females	3.328	.....	.....	.....	.....	.....	.....	.....	.....	2.538	.....	2.291

Deaths classified according to the 1909 revision of the International Classification

1900.

for Whites by Birthplaces of Mothers per 1,000 of Corresponding Population.

Residents Deducted.)

30 to 34 years.	35 to 39 years.	40 to 44 years.	45 to 49 years.	50 to 54 years.	55 to 59 years.	60 to 64 years.	65 to 69 years.	70 to 74 years.	75 to 79 years.	80 to 84 years.	85 to 89 years.	90 to 94 years.	95+ years.
1.023	1.689	2.221	3.711	5.427	7.910	9.862	18.455	23.679	23.069	33.395	38.044	17.857	68.966
0.909	1.730	2.118	3.290	5.952	9.527	12.159	21.579	24.717	26.174	32.479	39.773	48.780	
1.143	1.647	2.329	3.952	4.922	6.429	7.977	16.044	22.958	20.969	33.915	37.234	7.874	....
0.907	1.541	1.971	3.182	5.610	9.312	12.175	21.600	24.504	26.439	32.590	40.462	51.283	....
1.095	1.642	2.207	3.968	5.010	6.404	7.804	15.990	22 615	20.606	33.366	38.044	7.874	....
0.580	1.225	2.160	3.308	5.081	6.897	8.214	14.848	24.016	17.828	27.304	....	43.478	....
0.944	0.363	0.796	2.884	3.615	5.003	5.351	10.742	16.611	11.940	22.688	12.987	14.925	....
1.128	2.837	2.663	3.043	7.205	13.142	14.599	29.851	13.986	34.985	30.120	....	76.923	....
1.390	2.899	3.573	4.903	6.944	9.399	10.592	21.205	27.515	20.478	48.611	47.619	......	....
0.761	1.627	.....	.....	4.747	6.593	9.259	8.475	12.987	13.699	....	....	......	....
.....	0.930	1.143	0.963	1.938	5.405	11.799	8.889	12.500	11.236	43.478	....	......	....
1.512	.....	.....	2.646	2.911	4.367	15.576	10.309	33.898	40.541	....	....	......	....
0.876	0.834	3.297	1.453	......	......	......	4.762	6.536	12.346	....	....	......	....
0.877	0.699	0.568	2.591	4.587	3.559	8.086	......	27.972	14.706	....	....	......	....
0.733	1.180	.....	1.873	4.914	3.650	4.658	9.615	....	38.835	18.868	133.333	......	....
.....	1.626	.....	.....	......	......	......	27.778	....	....	....	....	......	....
.....	.....	2.907	.....	......	......	......	......	100.000	62.500	200.000	....	......	....
1.546	.....	2.278	.....	......	12.658	25.974	10.309	....	60.606	66.667	....	......	....
.....	.....	.....	5.291	......	4.525	12.048	6.452	46.875	19.608	52.632	....	......	....
.....	.....	1.200	7.937	......	16.575	20.833	44.444	....	....	....	....	......	....
.....	.....	4.264	.....	......	7.246	......	......	....	....	....	....	......	....
.....	.....	.....	.....	......	......	......	52.632	....	....	....	....	......	....
.....	9.346	.....	.....	17.544	......	......	......	....	....	....	....	......	....
.....	.....	1.292	.....	8.242	4.566	......	12.821	....	....	....	....	......	....
4.128	.....	3.490	2.304	3.289	11.173	8.475	37.037	33.333	142.857	....	....	......	....
.....	.....	.....	3.968	......	7.937	......	......	37.037	....	125.000	....	......	....
.....	.....	4.032	.....	......	......	......	18.868	22.222	45.455	....	....	......	....
3	1	3	6	6	6	9	13	12	4	4	2	......	....
1	3	2	5	6	2	4	7	11	7	4	3	......	....
0.965	6.637	6.410	6.424	17.493	21.739	11.111	20.000	50.000	....	....	....	......	....
3.091	1.842	8.357	3.247	......	8.264	22.472	21.739	54.054	47.619	76.923	....	......	250.000

of Causes of Deaths. Diseases 79, 119 and 120 used for this table.

TABLE VI.—AMOUNTS WHICH EACH DIVISION OF THE POPULATION RAISED BOSTON'S RATE IN 1900.
(The rates of those having mothers born in the United States taken as standard.)

	Entire population.	Whites by Birthplaces of Mothers.												
		United States.	Ireland.	Germany.	England and Wales.	Canada.	Scandinavia.	Scotland.	Italy.	France.	Russia and Poland.	Other countries.	Unknown.	Colored.
Actual deaths	10,880	2,835	3,967	326	319	1,064	118	164	484	24	363	140	715	361
Actual amounts of city's rate produced by each division of the population	19.40	5.05	7.07	0.58	0.57	1.90	0.21	0.29	0.86	0.043	0.65	0.25	1.28	0.64
Theoretical number of deaths if the standard rates had prevailed	8,217	2,835	2,400	320	328	918	153	140	346	25	440	132	27	154
Theoretical amounts of city's rate produced by each division of the population if the standard rates had prevailed.	14.65	5.05	4.28	0.57	0.59	1.64	0.27	0.25	0.61	0.045	0.79	0.24	0.05	0.27
Net effect upon the number of deaths	+2,663	.....	+1,567	+6	—9	+146	—35	+24	+138	—1	—77	+8	+688	+207
Net effect upon Boston's rate	+4.75	.....	+2.79	+0.01	—0.02	+0.26	—0.06	+0.04	+0.25	—0.002	—0.14	+0.01	+1.23	+0.37

TABLE VII.—MALES.

The Excess Deaths of Those Having Mothers Born in Ireland. (The rates of those having mothers born in United States taken as a standard.)

Age period.	Actual deaths among males having mothers born in Ireland.	Theoretical deaths among males having mothers born in Ireland (if the rates of those having mothers born in United States had prevailed).	Excess of actual deaths over theoretical deaths.	Principal causes of excess deaths, with number of such deaths due to each cause.	
All ages....	1,950	1,203	747	Tuberculosis	259
				Pneumonia	62
				Violent deaths	60
				Heart disease	56
				Cancer	35
				Chronic bronchitis	33
				Cerebral hemorrhage	29
				Alcoholism	28
				Bright's disease	17
				Diphtheria	16
				Hernia and intestinal obstruction	15
				Typhoid fever	14
15–19......	37	20	17	Pulmonary tuberculosis	13
				Typhoid fever	5
20–24......	91	35	56	Pulmonary tuberculosis	32
				Pneumonia	8
				Organic heart disease	5
				Violent	3
25–29......	139	54	85	Pulmonary tuberculosis	41
				Violent	10
				Pneumonia	7
				Alcoholism	5
				Heart disease	5
				Cerebral hemorrhage	3
30–34......	141	55	86	Pulmonary tuberculosis	40
				Alcoholism	11
				Pneumonia	8
				Violent	6
				Heart disease	4
				Diarrhea	4
35–39......	151	59	92	Pulmonary tuberculosis	41
				Heart disease	7
				Bright's disease	5
				Alcoholism	5
				Diseases of arteries	4
40–44......	124	41	83	Pulmonary tuberculosis	26
				Pneumonia	12
				Violent	12
				Cancer	4
				Ill-defined	3
45–49......	92	57	35	Pulmonary tuberculosis	10
				Cancer	5
				Chronic bronchitis	3
				Pneumonia	3
				Diseases of stomach	3
				Violent	3

TABLE VII.—MALES (*Concluded*).

The Excess Deaths of Those Having Mothers Born in Ireland. (The rates of those having mothers born in United States taken as a standard.)

Age period.	Actual deaths among males having mothers born in Ireland.	Theoretical deaths among males having mothers born in Ireland (if the rates of those having mothers born in United States had prevailed).	Excess of actual deaths over theoretical deaths.	Principal causes of excess deaths, with number of such deaths due to each cause.	
50–54	112	59	53	Pulmonary tuberculosis	10
				Pneumonia	8
				Cancer	6
				Chronic bronchitis	5
				Violent	5
				Hernia	4
				Heart disease	3
				Angina pectoris	3
55–59	119	55	54	Pneumonia	8
				Cerebral hemorrhage	8
				Bright's disease	7
				Chronic bronchitis	5
				Cancer	4
				Alcoholism	3
				Angina pectoris	3
				Hernia	3
				Violent	3
60–64	101	57	44	Pulmonary tuberculosis	8
				Cancer	5
				Cerebral hemorrhage	5
				Heart disease	5
				Violent	4
				Bright's disease	3
65–69	108	56	52	Heart disease	11
				Pneumonia	10
				Pulmonary tuberculosis	7
				Chronic bronchitis	5
				Cerebral hemorrhage	3
				Diarrhea	3

TABLE VIII.—FEMALES.

The Excess Death of Those having Mothers Born in Ireland. (The rates of those having mothers born in United States taken as a standard.)

Age period.	Actual deaths among females having mothers born in Ireland.	Theoretical deaths among females having mothers born in Ireland (if the rates of those having mothers born in United States had prevailed).	Excess of actual deaths over theoretical deaths.	Principal causes of excess deaths, with number of such deaths due to each cause.	
All ages....	2,017	1,197	820	Pulmonary tuberculosis.............	221
				Heart disease......................	109
				Pneumonia.........................	93
				Bright's disease....................	45
				Chronic bronchitis..................	36
				Old age............................	32
				Cerebral hemorrhage................	26
				Cancer.............................	24
				Violent............................	23
				Diarrhea (under two years)..........	18
				Diarrhea (over two years)...........	15
				Cirrhosis...........................	15
				Hernia and intestinal obstruction....	14
				Broncho-pneumonia..................	13
				Alcoholism.........................	11
15–19......	37	23	14	Pulmonary tuberculosis.............	7
20–24......	80	46	34	Pulmonary tuberculosis.............	14
				Heart disease......................	3
25–29......	124	71	53	Pulmonary tuberculosis.............	36
				Heart disease......................	4
				Pneumonia.........................	4
30–34......	118	41	77	Pulmonary tuberculosis......	34
				Pneumonia.........................	12
				Puerperal septicemia................	5
				Alcoholism.........................	5
				Heart disease......................	4
35–39......	129	47	82	Pulmonary tuberculosis.............	31
				Heart disease......................	11
				Bright's disease....................	10
				Pneumonia.........................	9
				Cancer.............................	5
40–44......	101	42	59	Pulmonary tuberculosis.............	23
				Heart disease......................	11
				Bright's disease....................	4
				Pneumonia.........................	3
45–49......	86	51	35	Pulmonary tuberculosis.............	11
				Heart disease......................	8
50–54......	125	54	71	Pulmonary tuberculosis.............	15
				Pneumonia	12
				Heart disease......................	10
				Cerebral hemorrhage................	9
				Bronchitis..........................	5
				Bright's disease....................	3

TABLE VIII.—FEMALES (*Concluded*).

The Excess Deaths of Those Having Mothers Born in Ireland. (The rates of those having mothers born in United States taken as a standard.)

Age period.	Actual deaths among females having mothers born in Ireland.	Theoretical deaths among females having mothers born in Ireland (if the rates of those having mothers born in United States had prevailed).	Excess of actual deaths over theoretical deaths.	Principal causes of excess deaths, with number of such deaths due to each cause.	
55–59	119	55	64	Pneumonia	9
				Cerebral hemorrhage	7
				Heart disease	7
				Pulmonary tuberculosis	4
				Chronic bronchitis	4
				Cirrhosis	4
				Bright's disease	4
				Violent	4
60–64	145	59	86	Pneumonia	17
				Cerebral hemorrhage	13
				Bright's disease	8
				Pulmonary tuberculosis	6
				Heart disease	6
				Influenza	6
65–69	158	69	89	Heart disease	11
				Chronic bronchitis	10
				Pneumonia	9
				Cerebral hemorrhage	8
				Old age	8
				Violent	7
				Broncho-pneumonia	6
				Hernia and intestinal obstruction	6
				Bright's disease	5
				Diarrhea	5
				Cancer	4

TABLE IX.—BOSTON DEATHS FROM CERTAIN SPECIFIED CAUSES, 1900 AND 1910, WITH PERCENTAGES OF SUCH DEATHS AMONG THE POPULATION OF IRISH MOTHER NATIVITY.

(Deaths of Non-residents Deducted.)

Causes of death.	Total deaths, 1900.	Deaths and Percentages of total deaths from each cause for those having mothers born in Ireland, 1900.	Total deaths, 1910.	Deaths and percentages of total deaths from each cause for those having mothers born in Ireland, 1910.
All causes	10,880	3,969=36.48%	10,294	3,377=32.81%
Pulmonary tuberculosis (Nos. 28 and 29 of 1909, revision of International Classification of Causes of Death)	1,345	653=49%	1,081	490=45%
Heart disease and nephritis (Nos. 79, 119 and 120 of International Classification)	1,353	554=41%	1,842	717=39%
Broncho-pneumonia and pneumonia (Nos. 91 and 92 of International Classification)	1,154	430=37%	1,287	423=33%
Violent deaths (Nos. 155–186)	470	156=33%	591	190=32%
Cancer (Nos. 39–45)	430	151=35%	580	212=37%
Cerebral hemorrhage (No. 64)	424	167=39%	523	195=37%
Chronic bronchitis (No. 90)	115	79=69%	34	17=50%
Alcoholism (No. 56)	68	44=65%	128	60=47%

In 1910 pulmonary tuberculosis caused 1,081 deaths in Boston against 1,345 in 1900, a decrease of 20 per cent. and corresponding to a decline in the mortality rate of this disease from twenty-five to seventeen per 10,000.

Deaths for pulmonary tuberculosis among those having mothers born in Ireland in the same decade fell from 653 to 490, a decrease of 25 per cent., a most excellent showing, though even in 1910 the 490 deaths represent 45 per cent. of all the deaths from pulmonary tuberculosis, indicating that the Irish are still unduly handicapped by this disease.

Alcoholism also continues as another handicap, for of the 128 deaths from this cause in 1910, sixty had mothers born in Ireland.

(Other comparisons will be found in Table IX.)

May not comparative statistics of these various divisions of the foreign population in various parts of the world lead to many suggestions towards lowering the mortality rates?

The real effect of the foreign population upon our mortality rates will be better appreciated, the diseases most dangerous to certain races will be better known, and the wise individual of each nationality will safeguard himself and his family against the diseases peculiarly dangerous to him and his.

EDUCATION FOR PARENTHOOD.[1]

By Helen C. Putnam, A.B., M.D., Providence.

We are facing certain facts: One is that parenthood does not make wise parents, for some fathers and even some mothers deliberately teach their children vice; more, by their conversation and acts, carelessly teach evil; many more, while perhaps guarding their own, will, in order to make money, degrade the children of other parents by employment and wages, by housing conditions, by entertainments and reading matter and pictures, by saloons and other details of city management; very many more parents neglect their children through ignorance, or in other occupations and pleasures. A very large part of modern social effort is struggling to undo the mistakes of parents.

We are, too, facing the facts that manhood does not always make a wise citizen, nor womanhood always an unwise citizen; that political elections do not make wise government nor wise school officials. Right education is the remedy for unwise parents and citizens of either sex; for unwise officials in state house, city hall, and school department. The crucial education is that for parenthood. Parenthood may become the nearest to Godhood.

The Creator has established certain laws for parenthood. Their violation even ignorantly injures future generations, burdening society and hindering higher civilization. Our first duty is to search out his laws, and this is done by expert students of his handiwork—man and the not-man. We call them scientists, whether they study mind, or matter, or social relations.

Our second duty is to prepare in this scientific knowledge of parenthood teachers of children—the potential parents; for the foundations of good parenthood must be laid before the event; after is too late to undo the errors committed and duties omitted in childhood and youth. Neither can we have marriages according to the laws of God until standards are so formed that only a wholesome person and character attracts love—the consummation of the law. The affections once engaged, even if sinning against the laws of parenthood, can be diverted only in exceptional cases and with suffering.

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[1] Read in abstract at the Conference on the Conservation of School Children, Lehigh University, April 4, 1912.

This preparation of teachers of potential parents has been developing during the last twenty years in certain places along definite lines, until paths well blazed by successful experimentation indicate where our efforts should concentrate. Preparing for wise parenthood is as definite a process as training for nursing, or for running a bank, or for building a bridge. As schools for nurses, one of the most beneficent undertakings of the nineteenth century, were initiated by medical women in their own hospital, so this training for parenthood was launched in the public schools of Boston by the intelligent persistence of college women, and against political indifference or incapacity or opposition is winning its way in every state.

Such courses for teachers are found in twenty or more universities and academic colleges, in twice as many special institutions and high schools, and in practically every agricultural college, for the United States Department of Agriculture has been their strong supporter. The ages of pupils range from seventeen to twenty-five or thirty. They may teach, and they may marry. These courses have minor variations, but the brief description of one will give a fair idea of the trend of all.

This course[1] takes the larger part of pupils' time for four years, the remaining being given to the usual studies—language, literature, history. The wise locating, planning, and building of a house, its wise care, the care and feeding of a family depend fundamentally on understanding certain laws of chemistry, physics, and living things (biology), and on skill in the arts of applying them to the duties of parents. These sciences are taught, not as we find them ordinarily in men's curricula, but as they directly concern healthfulness of premises, clothing and habits, wholesomeness of food, and, finally, the creation developed out of these factors and habits, character and social relations.

The central thought on which these four years of work is focused is: "Improving the individual so that future generations may attain a higher level than those preceding them." Education before this has stopped with more or less of improving the indvidual so that he may win "success," or "happiness," or wealth. This definitely holds up an ideal of responsibility that is infinite —future generations.

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[1] Department of Home Economics at the University of Wisconsin.

A summary of their study of social relations will be useful. It comes after two and a half years in chemistry, physics, biology, bacteriology, physiology, and household management. The development of the infant before birth from the single cell is first discussed, and as they have seen these beginnings many times in plant and animal life in their biologic laboratory, it is a simple matter to adapt that knowledge to human life. The discussion of heredity, of which they have already tested certain facts in their biology, takes up Mendelian laws of inheritance of inherent characteristics, the inheritance of acquired characteristics, the effects on germ plasm of alcoholism, syphilis, drug habits. They learn the fact that drunkards, insane, feeble-minded, habitual criminals, and sexually depraved men and women usually have children with defective nervous systems, and usually breed their kind. They learn the real significance of "good stock" on the father's side and on the mother's.

Teachers with this knowledge can do much, indirectly and directly, in mothers' and parents' clubs and with children to develop through the country right ideas of marriage to replace the unwholesome ones now so common among young people and among their parents, who should know and teach their children better.

There is a far-reaching significance in their enumeration of syphilis and gonococcus infection (not "gonorrhoea," one of its manifestations) among ordinary contagious diseases, and in their study of these statistics as well as the others in government and scientific reports, and their relation to the home; for they are not less than five times as prevalent as tuberculosis and all other contagions together, and they injure wives and children to an extent not possible to estimate. They are the cause of many deaths before birth (characteristic of syphilis); of the death, degeneracy, blindness of many infants in the first years of life; of many childless families and one-child families (a peculiarity of gonococcus infection); of the invalidism, surgical mutilation, and death of many wives; of much insanity, rheumatism, heart disease, and other physical and mental incapacity; of much divorce, unhappiness, crime; of expenditure of large public and private funds and effort on misfortunes that can and should be prevented. They have, through slow processes, exterminated ancient nations and modern communities. If they increase through the next quarter century at the rate of the last, it would seem as if this nation, too, must decline. In my own professional experience, as in that of other physicians, the fate of married sister or friend has prevented—is preventing—marriages.[1]

The students see logically that control of these contagions must be the same as control of small-pox, scarlet fever, and any other of the several that we have almost eliminated—every case must be reported to the board of health. That this so evident first step is not taken is due to the fact that boards of health, who are charged with administration of health laws, do not enforce the law requiring this done; that in the majority of states these laws have still to be enacted; that the great majority of physicians will not report these cases because they are almost always connected with illegal sex relations of men which they wish concealed; and that city governments, through their courts and police, permit these dangerous men to pass freely about in the community and into the homes where prostitutes never go, because of the established idea that men may lead irregular lives not permitted women—the so-called "double standard of morals."

Education for parenthood necessarily brings with it the insistence that government shall protect marriage from these contagions and their inseparable evils; and as government does not do so, never has been known to do so, possibly never can do so as the great majority of men claim, women in various countries in increasing numbers, and with the coöperation of many of the best men (but invariably fought by saloon, gambling, and other vicious elements), are securing the political right to protect their own and the children's lives according to their duty to the laws of God. There is no doubt in the minds of keen students of social relations that political dominance of sex is wholly an evil, and to both sexes; that the only right dominance is wisdom, of which education and experience are giving women full share with men. Civil law made by men not based on biologic law which women are learning ends in disaster.

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[1] For the above and additional facts see Chapters XV, XVI, XVII, of "Medical Gynecology," by Dr. H. A. Kelly, of the Johns Hopkins University; "Social Diseases and Marriage" by Dr. Prince A. Morrow (Lee Brothers & Co.); Educational Pamphlet No. 3, issued by the American Society of Sanitary and Moral Prophylaxis, 29 West 42nd Street, New York (a reprint of one of Dr. Morrow's most important chapters).

The wise intelligence of mothers, of professional women in the ministry, in law, in medicine, in sociology, and in education; laboring women with their sense of wronging their children when they go out from the home to earn their food and roof; and the other mothers who see their dearest, without legal protection or redress, contaminated, body and soul, out of the under-world whose pollution reaches all classes; these are concentrating on the demand, and are winning it. It is an indispensable step toward the establishment of right sex relations.

After this study of heredity comes study of physical and mental development of child and adolescent; the influence of city life and country life on development, with school statistics of the rates of growth of boys and of girls; the kind of education adapted to different kinds of children; infant mortality—the effect on it of women's work outside the home, and of different kinds of occupations of mothers before the child is born; governmental and social efforts to reduce infant mortality; the pension system for mothers, paying a small sum enabling them to stay at home and nurse their babies, thus saving citizens to the state, as governments have hitherto pensioned soldiers; the effects of institutional care of babies and children on death-rate and on development; the cause of reduced birth rates, and the duty of the educated in the preservation of the race; children in industry, and its legislation; the housing problem; child psychology; children's vices; education of the will; a study of nervous states and their hygiene.[1]

[1] For fuller account of this and other courses see reports of Education Section, 1910 and 1911, American Association for Study and Prevention of Infant Mortality. Address 1211 Cathedral Street, Baltimore. Each, 20 cents.

Such topics in some schools are, so far as practicable, made vital by coöperation with neighboring nurseries, hospitals, or other institutions; and there are of course children's classes in the practice school wherever teachers are trained. One has to regret that there is not yet a course for men complementary to this in some of its details. Many of the universities and colleges giving these courses have in the winter extension courses of a week or more, which are taken by thousands of farmers' wives and other women. In elementary schools competent teachers have organized many hundred classes of mothers and of parents, where study of and home coöperation in the education of their children is steadily being developed.

What some teachers are doing with children themselves can best be indicated by a few typical instances. Teachers of the youngest grade, in their study of flowers, birds, and other animals, speak of mother flower or animal, father and baby flowers and animals, tracing likenesses between parents and young, comparing their ways with people's ways, establishing thus indirectly the consciousness, or, better, sub-consciousness that every life is from fathers and mothers, from eggs or from the mother's body, that there are fertilized and unfertilized seeds, that heredity and environment are factors in life—not using, however, these polysyllables.

For children a little older, nine to eleven, a teacher who had studied biology began in the seventh grade a "continued story," "The Story of the World We Live In." The "first chapter" was brilliant chemical experiments illustrating gases, vapors, condensations into liquids and solids, some of the curious properties of water. In the following lessons they saw simplest plant life, yeast cells, through a microscope, and learned how they multiplied. They took for their text: "The two objects of every living thing are to perfect itself and to reproduce itself." This text was repeated, and formed the line of study for every plant through the year—how it grew and how it multiplied. The next year, in the last grammar grade, the continued story used the same text for every animal studied, how it grew, perfecting itself, and how it multiplied, giving as much attention to reproduction (which instructors usually omit) as to other functions.

It is to be remembered that the instructor was a student of biology, and the teaching was from this viewpoint.

In answer to my question, "Do you think you have taught anything of clean living?" she replied emphaticly, "I am sure I have. There were two boys two or three years older than the others. They were precocious and unclean-minded. It could be seen in their faces in the beginning. I had no private talk with them, but at certain points I took special pains to have them understand. Before the course was over there was a complete mental revolution, and moral, too, I know from their manner. They are clean, good boys now, and twice as bright."

There is a grammar school in the tenderloin district of a large city. The sights and sounds of the district educate the children more hours in the year than the school. The innocently-expressed ambition of the little girls was to be a "fancy lady," whose idleness and gay dresses were more attractive than their toiling mothers' lives. The little boys, too, admired the "fancy ladies." The teachers, startled by the children's standards and unconscious vulgarity in many ways, begged the superintendent of schools to have a physician talk to them. He did not say, as some: "Let it alone. You will only set them to talking and make matters worse;" nor as another said: "You are a dirty-minded woman yourself or you wouldn't see such things." He asked a medical woman who had been a successful teacher before studying medicine to give a talk to the girls; and he asked a medical man to do it for the boys. Each, ignorant of the other's action, refused, saying that one talk from a stranger would do harm, not being enough to cover so much. The medical woman offered to give twelve or fifteen talks, and include what was wanted. When she had so discussed general health habits that she had interested them and changed their mental attitude toward their bodies and toward life in some ways, she then safely discussed sex and its duties. After a few weeks of this course, the boys sent a petition to the principal: "Can't a doctor give us talks like the girls?" The medical man then gave three talks on general hygiene, and finally one on sex, beginning with laws and phenomena in plants and animals, so placing human law in relation to universal law.

The results of this experiment were highly satisfactory. Conduct, conversation, and ideals were for the time changed among these unfortunately surrounded children, but it would be a miracle if these few hours could undo the constant influence of a "red light" neighborhood—environment such as every large city permits for some of its children, centrally located for the sake of business, yielding extra high rentals to people of large means who own such real estate, and are not infrequently found among subscribers to philanthropies and to churches. Nearly every genuine attempt to break up such resorts is halted by the discovery at the tax assessor's office that the landlord or landlady is a person of social consideration. These reason: "My property is my own to do with as I please. If they pay their rent, I can't meddle with their morals"—the philosophy that a distinguished student of immoral women tells me is theirs, "My body is my own to do with as I please. I can earn more money this way. I will not work in a factory." Prostitution is largely an economic problem with several sides. These school authorities consider this as the handling of an emergency, not as what should be done regularly. They are developing systematic instruction in nature study and hygiene as rapidly as capable instructors can be found.[1]

In a large city is a teacher of biology for children from twelve to sixteen, who year after year for nine years, has taught in her classes of both boys and girls how every plant and animal they studied not only grew, but how it multiplied. She says enough, but no more than enough, to set them almost unconsciously to reasoning from these to laws of human life. They actually demonstrate principles of heredity while cross-fertilizing flowers, and of environment in other experiments. This instructor and other biologists are increasingly including the discussion of contagions which are due to minute vegetable and animal organisms, "germs;" and in the list of commonest contagious diseases enumerate syphilis and gonococcus infection along with the others, perhaps giving a few facts and statistics concerning each, without discriminating against these in particular. This is the honest and clean-minded course.

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[1] Dr. Zenner gives a full account of this and his further personal experience in talking to pupils in a little book: "Education in Sexual Physiology and Hygiene" (The Robert Clarke Company, Cincinnati). He makes no attempt to cover the subject, but contributes what we specially need just now, "clinical evidence."

In the last few years former pupils who have become parents, and others have told her gratefully what an illumination and help this knowledge had been to them. She says, as others also, that quite without her anticipating it in the beginning, the undercurrent of vulgar talk among the children spontaneously ceases as they advance in the study. The normal curiosity about sex and new life, as much a part of human nature as is love for pleasure, is directed in open channels where it can be enlightened healthfully, without defilement. A well-known educator of large experience once said to me, reflectively passing the problem through his mind, "I know no man in the schools of my city and but few women that I would be willing to have talk to my boy and girl on sex matters." "Would you be willing to have them take a sensible course in elementary biology?" He replied promptly: "I not only would be willing, but glad to have that."

These teachings, so rapidly outlined, agree in certain very important points, and demonstrate certain very important principles:

1. Not all teachers should undertake this, but only those prepared to teach the elementary science of living things, and with understanding of elementary sociology. Such do little with books or talks. Pupils see and handle plants and animals, watching life processes *with minds that are guided to search for law.*

2. Direct sex instruction in class is not given even in emergency until there is a well-laid groundwork in the renewal of life in all nature; a scientific setting or background, with a scientific vocabulary, that eliminates the vulgar attitude toward facts of sex inevitable when they stand alone.

We have made the deadening mistake of omitting from education all direction of the duty of passing on the torch of life entrusted to each for a few years. Education has been limited to self-preservation. Our sins of omission cannot be undone. The sorrow and suffering have been and left their blight.

We are in some danger, in our haste to get wise, of going to the other extreme, and over-emphasizing what is called "sex hygiene." This can hardly do more harm than altogether omitting it; but agitation for "instruction in sex hygiene," and for societies of "sex hygiene" seem over-emphasis. What we should agitate for and have organized effort to secure are:

1. Compulsory control of syphilis and gonococcus infection by boards of health. A very few societies with this object exist, working as definitely as do our many anti-tuberculosis societies on their problem.

It seems desirable to urge at this point that those physicians who use the unscientific names "venereal" or "shameful" or "sexual diseases" hinder progress in prevention very greatly. Many of the laity, especially educated women, are pursuing the correct method—declining to adopt or to otherwise encourage the obnoxious terms; but, instead, using the technical names, syphilis and gonococcus infection, in which there is no suggestion of evil, although some of the victims like some of the victims of diphtheria may be evil. Or they use the collective term social diseases, being mindful of the fact that tuberculosis, typhoid and others are also social diseases, diseases encouraged by our present social practices.

Some of the reasons for avoiding a nomenclature suggestive of immorality are: (*a*) Syphilis and gonococcus infection may be acquired without sexual irregularities as, for example, from the common cup or towel, from kissing, handshaking, or other innocent contact, or by marriage or by birth—all these being also agencies for communicating other contagion. Neither affects the reproductive system exclusively, both being systemic diseases attacking brain or other parts of the nervous system, bones, eyes, thoracic and abdominal viscera, and resembling other systemic diseases enough to cause errors in diagnosis, syphilis being occasionally mistaken for tuberculosis in its early stages, or for malaria; and both passing under other commonly used names (for example, "heart disease," "rheumatism"), neither being found, with rare exceptions, among causes of death recorded by health departments, in spite of their general prevalence.

(*b*) The terms are obstructive, for, until we cease to stigmatize patients (often unjustly as well as justly) we cannot secure enforcement of laws sufficiently effective to control the pale spirochete and gonococcus as we control other specific microorganisms.

2. Efficient teaching of home-making ("domestic science," "home economics"), especially in "continuation schools" or classes for our twenty million young people between sixteen and twenty-four years of age, now in no schools. These are strategic years, when home-making instincts are waking.[1]

3. Sensible teaching of the science of living things ("nature study," "school gardening," botany, zoology, elementary biology) as a compulsory study in elementary and secondary schools.

With these must be school environment and practices that grow healthier children to become healthy parents, and that are essential factors in "teaching hygiene." Our schools encourage tuberculosis, nervous disorders, and some other ills whose prevention is outdoor air and more occupations that increase the circulation, which means stronger hearts, lungs, and other vital organs. If home-making, gardening, and industrial training are wisely developed, they will improve the health of parents as well as their efficiency.

Schools should aim to create a national consciousness, a subconsciousness developing through childhood, that life is a trust received from many who have gone before, to be guarded and bettered in one's turn, and passed along to many after—a simple and easily demonstrable supplement to the more vague idea of God, stimulating an early sense of responsibility that is to moral life what physical exercise is to bodily life.[2]

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[1] See Continuation Schools, Education Section, American Society for Study and Prevention of Infant Mortality.

[2] Further discussion of school work is in Educational Pamphlet No. 2, "For Teachers," published by the American Society of Sanitary and Moral Prophylaxis, previously mentioned. Important popular discussions of education for parenthood are in the Report of Conference on Prevention of Infant Mortality, 1909, American Academy of Medicine, Easton, Penn.; also in the Reports of the Association for Study and Prevention of Infant Mortality mentioned in previous foot-note.

THE COLORADO METHOD FOR THE EXAMINATION AND CARE OF PUBLIC SCHOOL CHILDREN.

By Mary Elizabeth Bates, M.D., Denver, President Humane Education Society.

The following is the Colorado law:

AN ACT PROVIDING FOR THE EXAMINATION AND CARE OF CHILDREN IN THE PUBLIC SCHOOLS, AND MAKING AN APPROPRIATION IN CONNECTION THEREWITH.

Be it Enacted by the General Assembly of the State of Colorado:

Section 1. The State Superintendent of Public Instruction shall prepare or cause to be prepared suitable test cards, blanks, record books, and other needful appliances and supplies to be used in testing the sight, hearing and breathing of pupils in the public schools, and the necessary instructions for their use; and shall furnish the same free of expense to every public school in the State. The teacher or principal in every public school, or where there is no principal, the county superintendent, shall, during the first month of each school year, test the sight, hearing and breathing of all pupils under his charge, *such examination to be made by observation without using drugs or instruments, and without coming in contact with said child*; and keep a record of such examinations according to the instructions furnished and make a written report of such examinations to the State Superintendent of Public Instruction as he may require.[1]

Sec. 2. Every teacher in the public schools shall report the mental, moral and physical defectiveness of any child under his supervision, as soon as such defectiveness is apparent, to the principal or, where there is no principal, to the county superintendent. Such principal or county superintendent shall promptly notify the parents or guardian of each child found to be defective, of the child's defectiveness, and shall recommend to such parents or guardian that such child be thoroughly examined as soon as possible by a competent physician or surgeon with special reference to the eyes, ears, nose, throat, teeth and spine.

If the parents or guardian of such child shall fail, neglect or refuse to have such examination made and treatment begun within a reasonable time after such notice has been given, the said principal or superintendent shall notify the State Bureau of Child and Animal Protection of the facts; *Providing, however, that whenever it shall be made to appear to the said principal or superintendent, upon the written statement of the parent or guardian of said child, that such parent or guardian has not the necessary funds wherewith to pay the expenses of such examination and treatment, the said principal or superintendent shall cause*

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[1] Adapted from Dr. Frank Allport's Vermont law.

such examination and treatment to be made by the county physician of the district wherein said child resides; and it shall be the duty of such county physician to make such examination and treatment, and if he be unable to properly treat such child he shall forthwith report such fact to the county commissioners of the county with his recommendation.

Sec. 3. The State Auditor is hereby directed to draw his order for such sums and at such times as the State Superintendent of Public Instruction may require to carry out the provisions of this act. The total expenses under this act shall not exceed one thousand ($1,000.00) dollars in any biennial period ending November 30th.

The provisions in italics are the only amendments, made by the Senate and concurred in by the House, to the bill as I wrote it and as it was introduced in the House by Hon. Alma V. Lafferty, the one woman member of the Assembly.

Section 2, without its amendment, was included in a bill to collate the School Laws, introduced in the previous Assembly, but failed of passage.

It is the duty of the State Bureau of Child and Animal Protection to promote the interests of all the children in the State, to secture the enactment and enforcement of legislation for their benefin and to have especial care of the abused, neglected, dependeat, delinquent and defective children. For this reason it was made the especial duty of the Bureau of Child and Animal Protection to enforce the "Physical Examination (Bates) law," at the suggestion of its executive officer, the Secretary, Mr. E. K. Whitehead, who has long been particularly interested in what might be termed prophylactic child protection. The Bureau of Child and Animal Protection has endeavored to promote the physical welfare of the children coming under its especial care, but has been able to do so universally and more effectively since the passage of this law. The Bureau has brought several prosecutions for failure to conform to the statute but has not brought any such cases in the Juvenile Court of Denver.

The Denver Juvenile Court has a corps of special officers designated to look after the delinquent children of this city, but has never paid any attention to possible physical defectiveness as a cause of delinquency, nor has it made any attempt to remedy such defectiveness either by recourse to this law or in any other way.

Before the measure was introduced it had been endorsed without suggestion of change by the State Superintendent of Public Instruction, Mrs. Katherine M. Cook; the Superintendent of the Denver Public Schools, Dr. Charles E. Chadsey; the Executive Committee of the State Teachers' Association and the Association itself; the State Ophthalmological Society; the Democratic Women's Legislative Committee; and the Colorado Federated Women's Clubs' Legislative Committee but none of them had any part in its passage.

There was no real opposition in the legislature but the bill happened to present a convenient excuse for filibustering tactics and the constant attention it required for safe conduct through every possible legislative procedure devolved upon Mrs. Lafferty and myself.

Governor Shafroth promptly signed it, and it went into effect in July, 1909.

The circular letter of instructions on the modus operandi of the law, the record blanks, tests, letters to parents, etc., were prepared by the then State Superintendent of Public Instruction, Mrs. Katherine M. Cook and myself, and they are still in use. Tests and blanks in use in other states and cities were consulted and adapted to our conditions and purposes. The text thereof is as follows, and the Colorado method is best comprehended by reading them in their entirety.

INSTRUCTIONS

ON THE LAW FOR THE EXAMINATION AND CARE OF PUBLIC SCHOOL CHILDREN.

[Circular Letter.]

The Teachers will fill out the blanks in the Teachers' Record Cards as instructed, using the carbon paper to make two copies at the same time; the one marked "Principal or County Superintendent" is to be sent to those officials, and the other marked "Teacher's Stub" is to be left in the book for subsequent reference, comparison and summary.

Use a good, sharp pointed pencil with force enough to produce clear copies not easily erasible.

If it becomes necessary to re-record a pupil during the same school year, affix the second stub to the stub of first record.

The Teacher will place a * in red ink after the names of pupils whom she considers it desirable or necessary to refer for medical attention in accordance with the law, and indicate the reason therefore by a * opposite the number in the margin of the Record Card where defectiveness is indicated.

The Principal or County Superintendent will file the Teachers' Record Cards when received with the Notice of Parents' Book.

The Record Cards of pupils whose parents the Principal or County Superintendent notify are to be attached to the Stub of the corresponding Notice to Parent or Guardian, as directed thereon.

The Principal or County Superintendent will send the Notices to Parents or Guardians in accordance with the law (Session Laws of 1909, page 490), and record same on the Record Card received from the Teachers.

Should the Principal or County Superintendent require medical care for pupils not advised by the Teacher or not require it of any so recommended, he will notify the Teacher to that effect, with date of sending of Notice. In lieu of information to the contrary the Teacher will assume that Notices have been sent when marked therefor on her Record Card, and will date the "reasonable time" allowed for the return of the Physician's Report from the date of the sending of the Record Card to the Principal or County Superintendent.

The Physician's Report is to be returned to the Teacher. If within a reasonable time the Physician's Report is not received by the Teacher or proves to be unsatisfactory; or where in lieu thereof the parent or guardian sends a written statement that he has not the necessary funds wherewith to pay the expenses of such examination and treatment; the Teacher will send a Failure Notice (with such written statement if any) to the Principal or County Superintendent, recording same on the pupil's Teacher's Record Card.

The Principal or County Superintendent will record the Failure Notice on Pupil's Record Card and forward the Notice to the State Bureau of Child and Animal Protection, State House, Denver.

If a written statement of inability to pay accompanies a Failure Notice, the Principal or County Superintendent will at once "cause such examination and treatment to be made by the County Physician of the District wherein said child resides;" who if unable to treat such child shall forthwith report such fact to the County Commissioners with his recommendation. If satisfactory results are not had within a reasonable time, the Failure Notice, written statement of inability to pay, statement of reference to County Physician, etc., with other information germane to the case, is to be forwarded by the Principal or County Superintendent to the State Bureau of Child and Animal Protection.

What constitutes a "reasonable time" will be left to the judgment of the Teacher, under the advice and direction of the Principal or County Superintendent. If, after taking all the circumstances into consideration, doubt exists, refer the matter to the Bureau of Child and Animal Protection, with full particulars.

Whatever unpleasant or difficult duty may arise in the enforcement of the law for the examination and care of School Children, is laid by the law, not upon the Teacher, the Principal, the County Superintendent or the State Superintendent of Public Instruction, but upon the State Bureau of Child and Animal Protection.

Whenever the State Bureau of C. and A. P. receives a Failure Notice it will at once send its own notice to the Parent or Guardian requesting compliance with the law, and will, at the same time notify the Teacher of that action.

In most cases a notice from the Bureau will be sufficient to induce prompt obedience to the law. If, however, they still "fail, refuse or neglect," the Teacher will send a second Failure Notice, marked "No. 2," to the Principal or County Superintendent, who will forward it to the State Bureau of C. and A. P. at the State House, Denver. The date of the second notice is to be recorded also upon the Record Cards.

When the Bureau of C. and A. P. receives a Failure Notice accompanied by a written statement of inability to pay, etc., it will investigate and assist.

When the Bureau receives a second Failure Notice it will send an officer who will first consult with the Teacher, if possible with the Principal or County Superintendent, and acting under the direction of the Bureau will take charge of the case.

In most communities there is at least one local volunteer officer of the Bureau of Child and Animal Protection, fully empowered to act, and to whom the Teacher might be disposed to report cases, unless otherwise instructed. But in order to obtain accurate records and for other obvious reasons, Teachers are instructed to report all cases in accordance with the directions herein prescribed.

Teachers will record the results of the law enforcement by the State Bureau of C. and A. P. upon the pupil's Record Card.

The Teachers will fill out the Teacher's Summary blanks and mail to the County Superintendent at the end of the fall term and at the end of the school year.

The County Superintendents will fill out the County Superintendent's Summary blanks and mail to the State Superintendent at the end of the fall term and at the end of the school year.

Record Card Books and all other supplies for the execution of the provisions of the state "For the Examination and Care of School Children," or any part of them are to be sent upon her demand to the State Superintendent of Public Instruction.

Teacher should cross out words not needed and fill in blanks when occasion demands. All unused blanks should be returned to County Superintendent's office.

INSTRUCTIONS

ON

SIGHT, HEARING, AND BREATHING TESTS

In Accordance with Chapter 203, Pages 490–491, Sections 1, 2, and 3, Session Laws of 1909.

To Superintendents, Principals and Teachers:

The examination should be made by the teacher under whose immediate observation the child is to be, and under the direction of the Principal, or where there is no Principal, of the County Superintendent.

It is to be made during the first month's attendance of the child during each school year.

Every child must be examined.

The examination must be made privately and singly.

The record blanks must be filled out with the data obtained, and kept on file. The duplicate is to be sent to the County Superintendent at the end of each school term and upon request of the State Superintendent.

CHART No. I.

DISTANCE VISION CHART—LETTERS.

Sight—

Children already wearing glasses should be tested with such glasses properly adjusted; *i. e.*, frames straight, lenses on the same level and not touching the eyelashes. The head must be held straight, not tilted, and the eyes must look through the centers of the lenses.

The vision Chart must be kept in this envelope when not in use, as familiarity with it leads to an acquaintance with its letters. When it becomes soiled and worn, apply for a new one. Do not cover it with glass.

Place the Vision Chart on the wall in good light. side light preferred, and on a level with the child's head.

Place the child at a distance of twenty feet from the chart, directly facing it.

Examine each eye separately. Hold a card in front of and close to one eye, while the other eye is being tested.

Press the card against the nose, but not against the covered eye, as pressure on the eye will induce an incorrect result.

Have the pupil begin at the top of the chart and read aloud down as far as he can; first with the right eye from right to left and then with the left eye from left to right.

The line marked 20 should be seen and read at a distance of twenty feet if the child has normal vision.

To Record the Acuteness of Eyesight:

The number opposite each line of the Vision Chart shows the distance in feet at which those letters should be read by a normal eye. If the eye reads the letters (or with a mistake of only one or two letters) on the line marked 20, the vision is to be noted as 20/20, or normal; if the smallest letters which can be read are on the 30-foot line the vision will be noted as 20/30 (if vision is 20/30, parent need not be notified, if child is otherwise in good health); if on the 40-foot line, as 20/40; and so on.

If the child cannot see the letters on the 200-foot line, have him approach slowly until he can see them. If 15 feet is the greatest distance at which he can read them, the record will be 15/200; if 10 feet, 10/200; and so on.

To prevent memorizing, one letter at a time may be shown, and in irregular order, by covering the others with a piece of pasteboard having a hole cut in it, large enough to expose one letter.

CHART No. II.

DISTANCE ILLITERATE VISION CHART—FIGURES.

Use this chart in place of the "Distance Vision Chart—Letters" for children who do not know the letters, and in exactly the same way as directed for Chart No. I.

CHART No. III.

ASTIGMATISM CHART.

Test for Astigmatism:

Use the Astigmatism Chart in the same way at the same distance. If all of the lines are seen as equally dark and heavy, the child has no apparent astigmatism.

If one or more of the lines are seen to be blacker and heavier than the others, the child has apparent astigmatism, and the record should show which line is the blackest by its number on the chart.

Whenever it is learned that the child has less than 20/20 vision in either eye, or can see unusually far; that the lines on the astigmatism chart are not seen to be of even blackness; that the focusing power is markedly poor; that the child habitually tilts the head; that the eyes or eyelids are habitually red or inflamed, or sties have existed; that the eyes are crossed or have a strained appearance; that headaches of any kind, or pain in eyes or head, follow use of the eyes in reading, music-reading, sewing, or other near work with the eyes; that train sick headaches or morning headaches in the back of the head are frequent; or that the letters blur or run together when reading; the teacher will refer the case to the Principal or County Superintendent, who will send a notice to the parent or guardian of the child, that the child's eyes need medical attention, as the law requires. Effectual medical attention, with properly fitted and properly worn glasses, will cure most of these conditions.

HEARING.

Ears:

All children should be examined. Children should be examined privately and singly.

Examine the ears separately and together.

Ascertain whether the child has earache, has pus or a foul odor proceeding from either ear; suffers from frequent "colds in the head;" is subject to a constant catarrhal discharge from the nose or throat; or has noises in the ear.

Seat the child, with both eyes closed, facing you, near one end of a *quiet* room with the windows *closed*, and begin the tests of the hearing at a measured distance of twenty-five feet. The test is to be made by having the pupil close one ear tightly with his finger, while you observe the ability of the child to repeat your moderate whispers, with equal emphasis, of numbers between twenty-one and ninety-nine, inclusive—avoiding numbers with ciphers. Avoid having a wall behind you to act as a sounding board.

Record the distance at which the child correctly repeats a series of three numbers, which gives his hearing distance for that ear, thus:

If he repeats the numbers correctly at twenty-five feet, his hearing is 25/25, or normal; if the child only repeats the numbers correctly at twenty feet, his hearing is 20/25; and so on.

Further tests for ears, thus found defective, can be made by observing the greatest distance at which each ear can hear the tick of an ordinary watch. The normal distance is at least three feet.

When the hearing of either ear is found to be defective, the teacher will refer the case to the Principal or the County Superintendent, who will at once notify the parent or guardian of the child, that the child's ears need medical attention, as the law requires.

BREATHING.

Ascertain whether the child is a constant or frequent mouth-breather; has frequent attacks of tonsilitis or sore throat; has a flat or depressed chest, occluded nostrils or difficulty in breathing on exertion.

To ascertain if the nostrils are occluded, have the child press his fingers against one side of his nose and breathe forcibly through the other—note whether one side or the other is stopped up.

If any of these conditions exist, or are of frequent recurrence, the teacher will refer the case to the Principal or County Superintendent, who will notify the parents or guardian of the child, as the law requires.

COLORADO PUBLIC SCHOOLS.

RECORD CARD.

Date......................

TEACHER'S TESTS OF SIGHT, HEARING, BREATHING, AND MENTAL, MORAL AND PHYSICAL DEFECTIVENESS.

City or Town..................County..............School............
Principal's Name...................Teacher's Name..................
Superintendent's Name............................
Pupil's Name..
Age..............Sex.................Nationality..........
Parent's or Guardian's Name................Address..................

From 4 to 11 underline in ink the points that apply to this pupil.

1. Sight ....
   Glasses used—Yes, No.......................
2. Hearing ....
3. Breathing ....
4. Mental Activity (Good.........Average..........Slow..........)
5. Mental Defectiveness..........1. Inattentive....2. Backward....
   3. Imbecile........
6. Frequent Absences..........Cause............................
7. Moral Defectiveness..............Vicious personal habits........
   Moral delinquencies..............
8. Physical Activity (Excessive........Average........Poor........)
9. Posture...................... 10. Vaccination—Yes, No........
11. Physical Defectiveness—Under- or over-development, uncleanliness, twitchings, limping, deformity, head tilting, offensive breath, skin eruptions, frequent colds, hoarseness, cough, nasal voice, pain in head, hip or knee, headaches, backaches, signs of fever, signs of contagious diseases, pallor, poor circulation, teeth (crooked, prominent, decayed, dirty), frequent urination, enlarged glands, stuttering.

Indicate marked Mental, Moral or Physical Defects.

Disposition of this Case..
(*a*) Parent or Guardian notified........Date.........................
(*b*) Examination instituted............Date.........................
(*c*) Result...............................Report of Physician returned.
(*d*) State Bureau of C. and A. P. notified................................
(*e*) Remarks...

These "Record Cards" on sheets, in pairs, are made up in pads, a carbon sheet being used between each pair.

The first of each pair bears the following footnote:

This sheet is to be sent by the Teacher to the Principal, or where there is no Principal. to the County Superintendent.

The second, being the carbon duplicate, has the following footnote:

Teacher's Stub—Retain for Reference.

PRINCIPAL'S OR COUNTY SUPERINTENDENT'S STUB.

To this stub attach for permanent record, when received, the Duplicate Record Card of the Teacher's Test of Sight, Hearing, Breathing and Mental, Moral and Physical Defectiveness, from which make up the reports to the Superintendent of Public Instruction, to the State Board of Child and Animal Protection, and the notification letter to parent or guardian. Sections 5873*a* and 5995*a*, School Laws of the State of Colorado, 1909.

STATE OF COLORADO.

NOTICE TO PARENT OR GUARDIAN

THIS NOTICE DOES NOT EXCLUDE THE PUPIL FROM SCHOOL.

THIS NOTICE EXCLUDES THE PUPIL FROM SCHOOL FOR........WEEKS.

School.............. Town.................. County...............

..............................19....

Mr.........................

Your child, , has been examined according to Sections 5873*a* and 5995*a*, School Laws, '09, and it is found that..... *sight, hearing, breathing, seem to be defective, and we advise that the child be taken to a competent physician for examination and treatment.

If this notice with a satisfactory report from the physician employed is not returned to the child's teacher within a reasonable time, it will be considered as failure, refusal or neglect to comply with the law, which will necessitate report of the same to the State Bureau of Child and Animal Protection.

In case of contagious disease, the pupil will be excluded from school in accordance with the rules of the State and local Boards of Health.

....

Principal.

....

Co. Superintendent.

Date of Notification of Parent or Guardian...........................

Examination Instituted...

Treatment Begun...

Result to Child...

Date of Notification of State Bureau of Child and Animal Protection.......

Remarks: ....on further course of case............

REPORT OF PHYSICIAN.

Town.................. County..............Date.............19....

....

Teacher.

*Cross off words not needed.

Dear Sir: Madam:

I have examined......................in accordance with your recommendations and find the following conditions, and have instituted the treatment as noted:

Eyes..
Ears..
Nose..
Throat..
Teeth...
Spine...
General Conditions....................................
Contagious Disease....................................
Diagnosis...
Remarks:..
....
....
....

Respectfully,

....
Physician.

....
Address.

....

Attach to Original Teacher's Record when returned.

PHYSICAL EXAMINATION REPORT TO SUPERINTENDENT OF PUBLIC INSTRUCTION.

	Male.	Female.	Total.
Enrolment..........................	......	......	....
Number of pupils examined.............	......	......	....
Number of pupils with defects of sight....	......	......	....
Number of pupils with defects of hearing..	......	......	....
Number of pupils with defects of breathing.	......	......	....
Number of pupils with mental defects.....	......	......	....
Number of pupils morally defective.......	......	......	....
Number of pupils physically defective other than enumerated..................	......	......	....
Total number of pupils with one or more defects.........................	......	......	....

....
Superintendent of Schools.

...................., 191... of .... County...

From the Biennial Report of the State Superintendent of Public Instruction, 1909–1910, Mrs. Katherine M. Cook.

Physical Examination:

Among several worthy laws concerning schools, enacted by the Seventeenth General Assembly, no one was of greater importance for the protection of children than that concerning the physical examination of children.

While the returns are incomplete and not wholly accurate, owing to unfamiliarity of teachers with the law and its provisions in this, the first year of its existence, they are sufficiently complete and reliable to give a fair idea of its importance.

The report is tabulated by counties, and will be found among statistics at end of this volume. Out of the sixty counties in the State, Dolores, Garfield, Kiowa, Larimer, Park and Washington failed to make any return. The Law was not complied with by the superintendents, principals and teachers of these counties, and the children in their schools are not included in the totals.

In the remaining fifty-four counties 108,798 children are enrolled. Of this number 92,427 were examined, with the result that 41,546 were found defective physically, mentally or morally to a degree sufficient to warrant reporting their condition to their parents, in accordance with the terms of the law.

Surprising as this result is, and certain as it is to be received with incredulity by all who have given the matter little or no attention, it is still short of the percentage of defectives found elsewhere. It must be remembered that this examination is pretty thorough and searching, and covers defectiveness of any kind, which in many cases might go unnoticed for years, even by the parents of the children. This is especially true of the sight, hearing and breathing tests. The law provides that especial attention be paid to the eyes, ears, nose, throat, teeth and spine. If defectiveness were looked for in no other organs, and if mental and moral defectiveness were left out altogether, the number of children found defective would very nearly equal the total found. In fact the returns show that sight, hearing and breathing alone would account for nearly all of them. The number of adults who have perfect sight, perfect hearing, and whose air passages are in normal condition is very small, indeed; and while the proportionate number of children normal in these respects is higher, it is much lower than most people suppose.

The returns from Colorado show 45 per cent. of defectiveness in the children examined. In Chicago, out of 123,897 children examined, 51 per cent. were found defective; in Kansas City 56 per cent. were found defective.

Out of the 41,546 children found defective in Colorado, defects of sight existed in 26,978, hearing in 6,155, breathing in 8,045, and other unclassified defects, 21,825. There were 3,071 mental defectives and 746 moral defectives.

In Chicago 32.3 per cent. had defective teeth, 20 per cent. enlarged tonsils and 15.9 per cent. defective vision. In Colorado 29.1 per cent. had defective vision, a difference which our brilliant sunshine and frequent dust storms may perhaps account for in part.

In Colorado 6.6 per cent. had defective hearing and 8.8 defective breathing.

It was found in one school in Denver, the only one in which such a record was kept, that the teachers' examination made under the directions from the Superintendent of Public Instruction, was confirmed by the physician's diagnosis in ninety-eight per cent. of the cases discovered by teachers and reported to the parents for medical examination. If a like degree of accuracy or anything approaching it was reached in the rest of the schools hardly anything better can be asked.

Without going further into an analysis or comparison of the results obtained than to say that they show for the first year a value and importance not merely justifying the law, but fixing its place as a permanent part of our school law not less in importance than the instruction for which our schools have heretofore existed, it may be said that Colorado is far in the lead of any other state or country in the world. England is the most progressive foreign country in this respect, yet she ranks below Massachusetts, and the superiority of the Colorado law over that of Massachusetts is so great as to be practically out of comparison.

Out of the 41,546 cases of defectiveness reported to the State Superintendent of Public Instruction as having been discovered, and presumably reported to the parents of the children, 221 cases were reported by teachers to the State Bureau of Child and Animal Protection for failure of parents to have the medical examination indicated by the teachers' examination made. Whether this was the total number of cases which should have been reported we have no means of knowing. In the absence of further information it may be assumed that it does not depart far from the total which should have been referred.

With one exception the parents in all these cases were induced by letter or by the visit of an officer to do whatever the children's condition required. In the one case where it was necessary to bring the parents into court the child's throat was nearly closed by enlarged tonsils and his health seriously affected. At the trial the father was sentenced to thirty days' imprisonment.

Owing to the failure of some superintendents, principals and teachers to comply with the law and the reluctance of others to do so the instructions of the State Superintendent of Public Instruction this year contain the following paragraphs:

"The requirements of the law providing for the examination and care of children in the public schools are mandatory upon teachers, principals and county superintendents.

"In all cases where teachers, principals and county superintendents fail, neglec or refuse to comply with the terms of the law it will be the duty of the State Bureau of Child and Animal Protection to enforce against them the provisions of the following sections of the law for the protection of children:

" 'It shall be unlawful for any person having the care or custody of any child wilfully to cause or permit the life of such child to be endangered, or the health of such child to be injured, or wilfully to cause or permit such child to be placed in such a situation that its life or health may be endangered * * * or in any other manner injure such child.

" 'Any person who shall be convicted of violating any of the provisions of the preceding section of this act shall be fined not exceeding one hundred dollars, or be imprisoned in the county jail not exceeding three months, or both, in the discretion of the court; and upon conviction for a second or any subsequent offense shall be fined not exceeding two hundred dollars, or be imprisoned in the county jail not exceeding six months.' "

A quantity of informative circulars, one on the care of the teeth, prepared by the Denver Dental Association, and one on the care of the eyes, ears, nose and throat, prepared by the Humane Education Society, Denver, were sent to the county superintendent of schools, accompanied by the following letter:

STATE OF COLORADO
DEPARTMENT OF PUBLIC INSTRUCTION.
DENVER.

February 14, 1910.

To the County Superintendent of Schools:

I am sending some circulars on the physical care of children, prepared by the Humane Education Society and Denver Dental Association. They are for general distribution. It is hoped, by those who have issued them, that they will prove of some assistance in the enforcement of the new law on the physical examination and care of children in our public schools.

Respectfully,
KATHERINE M. COOK.

The circulars mentioned have, also, been incorporated in the State course of study.

While we were somewhat lenient in the enforcement of this law, during the past year, because of its newness and the fact that parents and teachers were both unfamiliar with its provisions, I believe it should hereafter be rigidly enforced, and I feel the utmost confidence in the ultimate good to be accomplished thereby.

OFFICE OF THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION,
DENVER, COLORADO.

CARE OF THE TEETH.

Teeth that Are Well Cared For Are Beautiful as Well as Useful.—Their chief use is to prepare the food for the stomach—to grind the food and mix it with the saliva. Food that is not thoroughly chewed causes indigestion and constipation.

Teeth Should Last to the End of Life.—If they do not it is due to decay or loosening.

Decay is caused by acids, formed from bits of food left after eating, along the edge of the gums, between the teeth, and in the crevices of the grinding surfaces.

Loosening of the Teeth is Caused by Diseased Gums.—Tartar is the chief cause of diseased gums. Swollen and bleeding gums are diseased gums. The way to prevent decay and loosening of the teeth is to keep them clean. The general health will be better if the teeth are kept in good condition, so that the food can be thoroughly chewed.

If Children Are Taught to Chew Their Food Thoroughly Their Teeth Will Grow Strong and Healthy.—Teeth can best be kept clean by scrubbing with a fairly stiff brush, with bristles well apart, to reach between the teeth, and some good powder or paste. Scrub all sides of the teeth, and in all directions, for at least two minutes, night and morning.

Irregularities of the teeth should receive careful treatment, especially those which make it impossible to close the teeth properly, thus leading to poor digestion and mouth breathing.

The First Permanent Molars Are the Most Important Teeth in the Mouth.—They come at about the sixth year, and are located right back of the temporary or "baby" teeth, and are often neglected because they are mistaken for temporary teeth.

The Temporary Teeth Should Last until the Permanent Ones Come In.—Any that decay before that time should be filled. This is necessary to the good health of the child. As good care should be taken of the temporary teeth as of the permanent ones. Too early extraction of the temporary teeth is a cause of deformities of the mouth.

A Dentist Should Carefully Examine the Teeth at Least Twice a Year.—A bad condition of the throat, the nose and the ears is made worse by decayed teeth. They add to the chances of catching infectious diseases. Well cared for teeth and a clean mouth help prevent *Tuberculosis.*

CLEANLINESS IS THE BEST GUARD AGAINST DISEASE.

PREPARED BY THE DENVER DENTAL ASSOCIATION.

EARS, NOSE AND THROAT.

The Sense of Hearing is Very Valuable to Every One.—Although each person has two ears well protected in dense bone, they are readily reached by diseases that attack the lining membrane of the nose and throat, such as colds, la grippe, measles, scarlet fever and diphtheria.

The ears are connected with the throat by two gristle-like tubes. It is through these tubes that air is forced into the middle ear cavities during the act of swallowing. For good hearing there must be air in the middle ears to balance the air pressure from without.

There is a pair of glands, called tonsils, one on either side of the root of the tongue, and also naturally (normally) a small tonsil-like mass called adenoids, in the upper part of the throat, close to the tubes leading to the ears.

When either the tonsils or the adenoids become too large, they interfere with the air entering the tubes to the ears and with the circulation of the blood to and from the ears. As a result the hearing becomes dull, especially when the child has a "cold." Repeated "colds" bring about lasting dulness of the sense of hearing.

Children with Earaches Almost Always Have Adenoid Growths.—Earaches should have prompt and proper care for they may result in deafness or in serious disease of the bone in which the middle ear is located.

"Running Ears" are Diseased Ears.—If neglected they result in damaged hearing and are a source of danger to life. All such ears should be kept clean and have proper treatment.

Nasal breathing is not only necessary for the preservation of hearing, but for the general health. It is known that even in dogs when nose breathing becomes impossible the hair falls out, the skin grows wrinkled and asthma sets in. And the same thing happens to the puppies born when the mother dog is so affected.

Bony deformities and other growths inside of the nose may also prevent nose breathing and, like tonsils and adenoids, by causing mouth breathing, give rise to deformities of the upper jaw, irregular teeth and to a number of nervous troubles and diseases, such as St. Vitus' dance, night terrors, headaches, restlessness, night sweats, mental dulness, backwardness in school, asthma, rheumatism and tubercular glands of the neck.

Mouth breathers are more liable to contagious diseases and to diseases of the bronchial tubes and lungs, which are more apt to be fatal than in nose breathers.

Practically all of the causes of mouth breathing are curable, and the earlier they are removed the easier it is for the child to overcome the "mouth breathing habit."

(Information for parents. Prepared for the Humane Education Society, Denver, by Drs. Wm. C. Bane, Osee W. Hoffman and Mary E. Bates.)

EYES.

Eyes are necessary for self-protection and to make a living, yet they are the least cared for and the most abused part of the body.

Eye-strain is an excessive or abnormal effort of an eye or a pair of eyes to maintain perfect vision (sight).

Eye-strain is due chiefly to some defect in the shape of the eyeball or to weakness of the muscles of the eyes. It may also be due to or made worse by over-use or unwise use of the eyes.

A perfect eye can be strained by over or unwise use just as a perfect arm or leg can be. There are few perfect eyes.

The Imperfect Eyes Are on a Strain Whenever Open.—They are more easily harmed by over or unwise use. This means a leakage of nerve force in the eyes and in other parts of the body. Such eyes may seem to be perfect and yet by using up more nerve force than their share, in order to see, may lead to diseases in other parts of the body thus deprived of nerve force.

Slight imperfections of the eyeballs causing small amounts of eye-strain often do more harm by continuously undermining the general health than do the greater ones that are more readily felt and hence more quickly relieved.

Reading while lying down, and by poor light, night or day, is harmful to the eyes.

SOME BAD EFFECTS OF EYE-STRAIN.

Headache and neuralgia, particularly over the brows and in the back of the head and neck.

Inflammations: redness, scales, crusts and sties of the eyelids and ulcers of the eyeball.

Cross-eyes: the eye that crosses usually loses vision from non-use and may become practically useless if not corrected.

"Reflex" Nervous Conditions: epileptic spasms, convulsions, "nervousness," restlessness at night, palpitation of the heart, St. Vitus' dance, nausea, vomiting, indigestion, a "run down" and even more serious physical conditions are common.

Watering of the eyes and blurring, when reading, sewing or doing other near and fine work.

Backwardness in Mental Growth, and Truancy.—Eye-strain produces an irritation in the brain expressed by a restless desire to run away from school (and near work) and then they stay away for fear of failure in class.

Tilting of the Head.—When constant, this is often due to an effort to straighten out crooked vision and may lead to spinal curvature with its bad effects.

Holding the work close to the eyes shows eye-strain.

When these conditions are caused by defects in the eyeballs, glasses are necessary and they cannot be permanently cured without glasses.

Children's eyes should always be tested with pupils dilated by atropine (belladonna).

Spectacles are better than nose glasses.

It is as necessary to keep the glasses on straight as it is to have a proper fit. If glasses are not comfortable or do not fit they will be taken off and not worn. Because a child refuses to wear the glasses it is no sign that he does not need properly-fitting spectacles. (Prepared for the Humane Education Society by Dr. Wm. A. Sedwick and Dr. Mary E. Bates.)

The following leaflet was prepared for use in the Denver Public Schools by one of the Denver School Inspectors, Dr. Rose Kidd Beere, and in connection with it the notice following thereafter is used:

DENVER PUBLIC SCHOOLS.

School District Number One in the City and County of Denver, Colorado.

NOTICE TO PARENTS.

We ask your help in the effort we are making toward the education of the children in the care of the teeth.

Much bad health comes from decayed, unclean teeth.

Your Part:

To see that your child brushes his teeth after every meal.

If he has decayed teeth, take him to a dentist.

Our part:

To give proper instruction on the care of the teeth.

To provide tooth brushes for 7 cents.

Food left about the teeth decays and forms lactic acid which destroys the enamel.

Green stain, if not removed by a dentist, should be brushed persistently using precipitated chalk, occasionally powdered pumice stone.

The temporary (baby) teeth should be kept filled and in place until gradually pushed out by the coming second teeth, for if lost too early those taking their places are apt to come in crooked.

THE SIXTH YEAR MOLAR often begins to decay early. It is the sixth tooth from the middle line, on each side, above and below. Watch it and have it filled if it shows a spot of decay, for no tooth will ever come in its place if it is lost.

Teeth should be examined every six months.

DENVER PUBLIC SCHOOLS.

School District Number One in the City and County of Denver, Colorado.

To the Parent or Guardian:

An examination of your child indicates that the child's teeth need attention.

I suggest that a dentist be consulted.

The dentist who examines this pupil is requested to sign and date this card and return it to the child, who will return it to the teacher. A subsequent report of the result of this treatment will be appreciated.

..................Principal.

I have this day examined the above named pupil and have begun treatment.

Date........ ....

D. D. S.

Any law which adds to the requirements and duties of the teacher may meet with her opposition if she be ignorant of its need, its objects and its benefits; if she be blind to its absolute and relative importance and, indifferent to her true mission and opportunity, determined to earn her salary the easiest way.

When schooling ceases to be the present senseless routine of imparting and receiving a hodge podge of miscellaneous information and becomes a truly educative process the physical welfare of the pupil will be recognized as the prerequisite of successful mental, moral and spiritual development.

The demand which the "Bates Law" for the Examination and Care of Public School Children has created for a better understanding of mental, moral and physical defectiveness and their inter-relations has shown the need for the special instruction of teachers therein as well as their special training in the methods of examination and the enforcement of the law.

The State Bureau of Child and Animal Protection has kept Dr. W. R. Callicotte, Professor of Moral and Humane Education, in the field throughout the state for that purpose where such instruction has not been furnished by other authority, and the State Normal School at Greeley has added to its curriculum such a course which will be given by Dr. Callicotte. Proficiency in performance of her part in the law will doubtless soon become mandatory before a would-be teacher can obtain her certificate.

In Denver, during the present school year, the Denver School Board has employed two "School Inspectors" who have supplemented the work of the teachers where the teacher found defectiveness. This has operated to the better protection of parents from needless recourse to a physician and a better differentiation and comprehension of defectiveness, as well as a training of the teachers in their duties under the law. The discovery by Dr. Beere of scores of cases of trachoma in the public school maintained by Denver in the State Home for Dependent and Neglected Children, was one of the benefits of this additional medical inspection, as desirable in its way as the release of the teacher from her responsibility by a purely medical inspection would be undesirable.

As a state proposition paid medical inspection by physicians is at present a financial impossibility. None of the many valid objections to possible political incompetents as such inspectors apply to the Colorado method.

Here the benefits are not limited to the examination made at the beginning of the school year, for ours is a system of continuous observation, including both prophylaxis and cure.

The foolish and vicious trend of the times promoted by the Juvenile Courts and other influences, to relieve parents of their obligations and responsibilities to their children, and to the community for the welfare of their children, by assuming such obligations and responsibilities or placing them elsewhere, and the equally foolish and pernicious doctrine that, *per se*, "parents know what is best for their own children" and will therefore, do what is best for them, find no support in the "Bates law."

The law was designed to fit conditions in Colorado; to utilize the public school system in a proper and available way; to obtain at a minimum cost a practically continuous observation and investigation of the health and needs of school children; to hold parents responsible for the relief and cure of defectiveness in their children; to permit them freedom of choice of a "competent physician or surgeon;" to furnish information to parents of value to them, their children and the community; to assist them wherever necessary for the best good of the children and to provide a legal way to compel delinquent parents to meet their legal parental obligations and responsibilities.

The following letter presents the subject from the standpoint of the law's enforcement by the Bureau of Child and Animal Protection.

THE STATE BUREAU OF CHILD AND ANIMAL PROTECTION.
State Capitol, Denver.

DENVER, COLO., March 17, 1912.

Dr. Mary Elizabeth Bates,
520 Majestic Bld'g, Denver.

My dear Doctor:

There are no general statistics available on the operation of the law requiring the physical examination of school children later than those furnished by the State Superintendent of Public Instruction in her biennial report for 1909–1910. They covered the first year of the law's enforcement, it having been passed in the spring of 1909. The next biennial report of that office will appear in January, 1913, and will be for the years 1911–1912.

However, the statistics in the report for 1909–1910 will answer the purpose of determining the value of the law and its practical working. We have no reason to expect any considerable changes in the next report except, probably, a more complete and intelligent observance of the law by teachers. There is no question of its being a permanent and most valuable addition to school legislation and of its broadening from year to year the narrow view heretofore held of what the school and the teacher ought to do for the child.

Not so many cases of neglect or refusal by the parents to act upon the teacher's notice were referred to this office the second year as the first. As might be expected, few such cases came from places which furnished many the first year, and *vice versa*. We have no reason to think this is due to lax observance of the law but rather to general acquiescence and compliance with it. Some towns where teachers and principals are known to be thorough-going and alert report no difficulty in any case.

We have thus far had only three cases where our officers found it necessary to bring parents into court under the general law against wrongs to children for refusing to have examination made and treatment begun after notice from the teacher. In two of these cases the parents were convicted and given, each, a thirty-day sentence in jail, which they escaped serving by complying promptly with the law. The third case has not yet been tried but we expect, without doubt, to convict.

It should be said that this Bureau makes all reasonable effort to secure compliance of parents with the law without court action. When teachers notify us of the failure of parents to respond to their notices of apparent defective conditions in their children we, in our turn, notify the parents that they must comply with the law within ten days or give some good reason for not doing so. At the same time we send a notice to the teacher and ask to be informed about all who do not act upon our notice within the ten days. At the expiration of ten days if the teacher has not notified us of proper action by the parents we send our officer to the delinquents. In all the cases we have thus far had, now probably approaching a thousand, we have secured compliance with the law in all but the three cases already referred to without going into court.

After an experience of nearly three years we can suggest no necessary amendments to the law under the conditions existing in this state.

In our opinion the law in usefulness and value occupies the front rank, sharing it with the general law forbidding and punishing wrongs of any kind to children, the compulsory education law and an adequate law requiring moral and humane education, ...these four.

Sincerely,

E. K. WHITEHEAD, *Secretary.*

The object of this law was to provide a way by which all the public school children of Colorado might be under continuous, intelligent and interested observation with the view of aiding them to achieve the highest possible degree of physical, mental and moral health, and to provide adequate means for enforcing such attention and care by parents as might be necessary therefor.

The experience of the three school years that have elapsed since the law was passed indicates that this object is being attained.

THE SUBNORMAL SCHOOL CHILD.

By L. T. Royster, M.D., Norfolk, Va.

Since the institution of general and systematic medical inspection of school children, the conception of the delinquent child has undergone a radical change, and through no other single agency will the conduct of large centers of primary education be more completely revolutionized.

The laggard child has long been recognized as the most difficult problem of the graded school; the reason for this is that the true nature of retardation was not understood, for the time is not long past when all children who did not keep up with their studies were considered lazy or bad, hence frequent and severe punishments were the rule, without, however, the lessening of retardation. In sharp contrast to this view, is the modern scientific one which regards delinquent children as belonging to two general classes: the one mentally subnormal—usually from inheritance; the other, and by far the larger, those whose mental faculties are impaired through physical defects. This problem has fortunately engaged the efforts of the most astute minds of all professions, for upon its solution depends the success of modern educational endeavor, the stability of our school system and to a large extent the integrity of the nation.

The laggard child may be described as one possessing an *apparent* inherent or constitutional inability to keep up with the course of study or grade which experience has shown to be the one best suited to the child of a given age. Manifestly a child's age in years is an exceedingly unscientific criterion by which his mental capabilities should be decided, for among children as among adults mentality varies greatly with individuals. It is not uncommon to find a child of six years capable of entering the first or perhaps the second grade of the public school course, or on the other hand one who even at eight or nine years of age with difficulty keeps up with the first-grade work, and yet it is determined *by law* in many states that a child of seven years must be entered in the first grade. Thus it is seen that the very principle on which entrance is based is conducive to retardation.

I have long been of the opinion that in most of the public school curricula the error has been committed of fitting the course of study not to the capacity of the average pupil but rather to that of the bright one. Under such an arrangement it is evident that the dull pupil starts his school career with a serious handicap.

A certain number of children are of course embarrassed by true, mental defects. These have been divided by investigators, notably Goddard, into three classes: The idiot for which, unfortunately nothing can be done, except to place him in a sanitary and safe environment. The imbecile which has to be dealt with in institutions under competent and trained teachers and attendants. While in the third class belongs the "Moron" which is a child who is usually able to keep up with school work, and may be mentally indistinguishable from the normal child but in whom there is an inherited tendency to defection, usually moral, which may not develop, however, until the school age is past. I do not think that this class has been sufficiently studied to form a definite plan for their management.

Irregular attendance at school is a not inconsiderable cause of retardation and elimination. This may be due to lack of interest on the part of parents; to sickness of the pupil himself or in the family, necessitating the child's remaining at home to care for other members of the family; long quarantine in case of contagious diseases (unfortunately an unavoidable cause) and among the poor, cases are common, where children are being frequently kept away from school, in order to be put to work.

Among other causes which may be mentioned are the overcrowded curriculum, and of special potency the practice of adding too many pupils to the burden of the already overtaxed teacher, thus making it impossible for her to pay attention to the individual needs of the pupil.

Viewed in the light of modern scientific studies, however, the majority of laggards are normal children mentally, but embarrassed by physical defects, which in turn impair the mental faculties to an extent which is sufficient to place them in the subnormal class. Ever since the first foundation of society, the criminal has been recognized as belonging to a distinct class of humanity; an individual whose instincts were diverted by nature from their normal channels; but it remained for Lombroso and his followers to study this class along scientific lines with the physical as a basis which in many instances was of more importance than heredity. Similarly ever since we have had schools the laggard has been recognized as so distinct a type that in none of the older pictures of the school-room was there ever absent the dunce-capped boy on the stool in the corner and the begrizzled master standing with rod in hand ready to thrash the lesson into him.

Fortunately for these children the twentieth century scientific principle has come to their aid through the efforts of such men as Drs. Witmer, Gulick, Ayers and others, who have conclusively proven that by correcting existing physical defects the great majority of laggard children could be speedily raised from their position at or near the foot of a repeated grade to the point of completing the course slightly if any behind the average pupil.

From such investigation and the unquestionable results of the same, it will be readily seen that the greater number of these unfortunate laggards are the victims of physical rather then mental defects, and that in their impaired physical condition we are presented with the most far-reaching cause of repetition in school work.

The effects of retardation on school, child and community, are so numerous, and far-reaching that a comprehensive consideration of them would far exceed the limits of this paper. I shall merely suggest a few, hoping thereby to stimulate others to study more exhaustively these complex situations.

The detrimental influence of the presence of one or more pupils in a grade, who are unable to keep abreast of the course of study, is so obvious that it is not necessary for me to dwell on it. The whole class is reflexly retarded for the benefit of the few and the progress of a room is generally unsatisfactory.

Further, this condition promotes laziness and inattention on the part of the bright pupil (only too often themselves a menace to the room because of their brightness) on account of the ease with which they accomplish their daily task. Also the average pupils lack sufficient incentive of competition to make them above the average which many of them would no doubt become through greater mental activity. Nor does the baneful influence end with the pupils, for it cannot fail to react on the teacher in ultimate discouragement and impaired usefulness.

But what of the effect on the child itself and the community at large? The child is first discouraged and then attention ceases to be fixed because of its inability to grasp the lesson; finally completely disheartened it becomes a drone in the school, retarding the progress of the other pupils, and unable to occupy its time with the routine work of the school, gives vent to the accumulated animal spirits in mischievous pranks which being oft repeated ultimately lower the moral tone of the whole school. In addition to vicious tendencies thus formed, these children who have not kept up with their work and having frequently repeated a grade, soon leave school before the completion of the course, and having failed to learn concentration of energy and self-control, are not only unfitted for the usual vocations, but are even a menace to society; running the gamut of youthful indiscretion, petty offenses against the law, and only too often crimes of the worst sort; subsisting on dishonesty and successfully evading arrest, or on the other hand becoming too bold and less vigilant, are apprehended and become burdens on the Commonwealth as term prisoners in the state penitentiary.

It has been estimated that repeaters in our schools cost—because of repetition—the people of the United States in one year $27,000,000.00. This is merely while they are attending school. It is of course impossible to compute the cost of their maintenance in after-life, as non-producers and prisoners—hence parasites on the community in which they live. Therefore from an economic standpoint alone this class is deserving of our most careful investigation.

Finally, let us see briefly what can be done for this problematical child; what can be done to help him keep up with the curriculum, to better fit him for life's battles, to make him a useful and wealth-producing citizen and to lead him into the way of right living and away from vicious habits and his consequent appearance at the juvenile court, the higher court or only too frequently the prison cell.

The first and most important remedial measure is efficient and adequate medical examination of all school children. Such examination should have for its object the correction of defects of vision, by properly fitting glasses, thus relieving eye strain and securing a correct perception of the written or printed word or phrase, without which the conception is faulty, and its reproduction correspondingly inaccurate. Likewise impaired hearing which bears the analogous relation to the spoken language.

The removal of adenoids and tonsils when unusually enlarged or diseased. Careful attention to the teeth, bodily cleanliness, posture at desk, school lighting, and the general hygiene of the school building. All of these should be attended to most carefully during the formative years of the child's school life, for impressions gained at this time are of vital importance, and a faulty primary education can never be corrected, even by the most elaborate higher learning.

No examination of school children is complete without the application of the Binet test for mentality, for only in this way can we fit the grade to the child rather than the child to the grade as is usually done. The school nurse is an indispensable adjunct to medical inspections not only in assisting in the examinations but in carrying the gospel of right living into the home. And I am convinced that so far as is possible the nurse should personally interview the parents, when medical attention is needed, rather than the promiscuous use of the printed notice, which is often misunderstood by the ignorant, causing frequent and unnecessary absences.

The question of individual temperament should be given careful attention in order to determine the natural inclinations of the child. This is perhaps the point most frequently neglected by all teachers.

The modern student of child delinquents, however, does not confine himself to the study of sight and hearing but makes further observations along broad and concise lines, including such things as the sense of touch, motor control, coördination and the state of nutrition and inquiries into the amount of sleep which the child secures, the amount and character of the exercise taken, his powers of observation and by no means the least of all, his home environment, which is one of the most important factors in the formation of character. Such studies as these and the handling of children along the lines indicated has produced apparently miraculous results, developing average and even bright pupils from those previously considered by their teachers as hopeless laggards. In large centers of population an ungraded school should be maintained where those of unusually lowered capacity may be placed, where the child should be taught and handled according to its individual needs, looked after by the medical examiner separately and minutely and developed along lines in which it is especially deficient. Where the separate school cannot be maintained each building might have a room or there might be a room for each two or three buildings in which one teacher might well handle five or six such children and bring them to a better understanding of the subject matter in hand. One fact which should be borne in mind in the teaching of sub-normal children is that five or six children should always be the limit for each teacher. I am greatly gratified by one important observation which this study has developed and that is the important part played by manual training in the handling of these children, for it not only gives them something to do which is at once instructive and interesting but it teaches observation, care, precision, accuracy, coördination, motor control and economy. Adequate attention to defectiveness cannot be paid without the assistance of district nurses who will follow up the case at home and instruct the parents as to the necessity of having children properly cared for.

The open air school is a promising aid in the furtherance of this cause and I hope to see the time when every school which is erected will have a roof garden or other arrangement for this purpose, while semi-annual promotions are rapidly coming to be the rule. Carefully kept records of the physical condition of pupils, the amount of improvement, after-treatment, their progress in their studies, etc., are absolutely essential to the efficiency of the undertaking in hand.

It was Gladstone who said that on the health of the people depended the strength of a nation. Our nation is growing from within, countless hordes of immigrants are making daily assaults on our shores, in a friendly warfare, a struggle for that liberty which only America has to offer. In the education of all the people not alone in book knowledge but also in that knowledge which will teach them how to live and thus make us the great and virile nation which God intended that we should be, lies the safety of the nation in the future. Make the people healthy mentally, morally and physically: the nation will be strong. The medical school inspector and especially the visiting nurse who will carry the principles of right living into the home itself can accomplish this.

MANAGEMENT, MAINTENANCE AND EFFICIENCY OF THE SCHOOL FOR CRIPPLES IN CLEVELAND.

By J. E. Tuckerman, A.B., M.D., Cleveland.

In the State of Ohio we have public institutions for the blind maintained by the state. There is a school for the deaf entirely under the control and maintenance of the public school system in Cleveland. There is, however, no fully controlled public institution for the care of crippled children who cannot get to and from school. It remained for private benevolence to start such an institution.

The Sunbeam School for Crippled Children was originally founded by an organization called the Sunbeam Circle and was incorporated in June 18, 1902. Its membership was limited to thirty active members paying dues of $5.00. Provision was made for honorary members having dues of $2.00. There are at present about 148 contributing members who, while not active in the management, contribute to the support of the enterprise. Originally the efforts of the Sunbeam Circle were confined to the buying of braces for needy children and to the maintenance of a day nursery or kindergarten under the charge of Miss Amy Noak. In 1910, part of its activities were assumed by the Cleveland Board of Education under Director Charles Orr. The present arrangement therefore is a coöperation of private charity with the public school system.

The school is housed in a portable addition or separate building of one story construction on the grounds of the Wilson School on East 55th St. There are three class-rooms, a small surgery, and a kitchen. The children are called for by omnibuses and thus taken to and from school. The sessions last from nine in the morning until two-thirty in the afternoon. A hot lunch is served at eleven-thirty. The classes range from kindergarten up to the sixth grade. The enrolment in 1911 was 61, while at present it is about 70. In 1910 the attendance was 40. Then one teacher and an assistant were employed and two 'buses were used to gather the children. At present the teaching force consists of a principal, three teachers and an assistant. A cook is employed to prepare the lunches, and three older girls are employed to help care for the children at the school. Four 'buses are required, each traveling an average of twenty miles in making a round trip. They are manned by drivers and the four truant officers detailed by the city for the morning trip. On the night trip the children are accompanied home by the older girls who replace the truant officers in helping the patients out of the 'buses.

The coöperation of the Visiting Nurses Association, the District Physicians, Lakeside Hospital Clinic and Rainbow Cottage is had in locating deserving cases, and in taking care of their surgical and hygienic needs. A small surgery for making dressings has been equipped at the school where a graduate nurse attends tri-weekly, and oftener if needed. A physician visits the school once a week. For operative procedures the children are taken to Lakeside Hospital Clinic and for prolonged convalescence to Rainbow Cottage. Children who have recovered so as to be able to go to school unattended are returned to the regular grades. In 1911, 15 children were returned to the regular grades, having lost very little school time in spite of their illness.

The Public Library furnishes books for home reading. The Board of Education has made the comfort, health and happiness of the child its first consideration, while education is considered secondary. Most of the children are of average intelligence, but there are a few of decidedly low mentality who ought to be placed elsewhere. Once a week there is a class in manual training for boys and one in clay modeling for the girls, but as yet no special instructor is employed for this work.

During the summer the Circle endeavors to give each child a two weeks' summer outing, and through their nurse to keep track of the medical needs of the children.

The burden of expense is borne as follows: The Board of Education furnishes the school-rooms, the teachers, the 'bus drivers and truant officers; the visiting nurse is paid by a certain private individual, while the cost of the lunches, the supplies for medical and surgical needs, the employment of the woman who does the cooking, and the employment of the three girls who help with the children, is met by the Circle. The services of the District Physician, Lakeside Clinic and Rainbow Cottage are donated.

An idea of the type of cases which find their way to the school can be obtained from the 1911 report.

Tuberculosis of the hip	10
Tuberculosis of the spine	9
Infantile paralysis	20
Congenital dislocation of the hip	4
Rickets ("Soft Bones")	4
Tuberculosis of the knee	5
Patients under treatment for clubfoot	2
Unhealed amputation, arthritis, hydrocephalus, muscular dystrophy, disability from old fracture, of each	1

Of these 57 were patients at Lakeside Hospital Clinic, 5 were under the care of private physicians, 16 had been both at Lakeside and Rainbow Cottage, and 30 have been supplied with braces by the Lakeside Brace Fund. In the year 1911, 192 new cases of cripples were investigated, many of whom were sent to Lakeside or Rainbow Cottage and are now (1912) in attendance at the school. The 1911 report shows that during 1910 the cost of eight months of school was $1,874.13 to the Circle, and that the two months in coöperation with the Board of Education cost the Circle $769.47.

Miss Christiannar, the principal, states that it is impossible with the present system and facilities to learn of all the children who might be aided by the school. Sometimes the children live too far to be reached even by the 'bus. This school is in need of more room, of a special teacher for manual training and greater facilities in fetching the children to and from their homes. The work has undoubtedly established its need for existing, and the partial recognition and part support accorded it by the Board of Education must ultimately result in the complete control both of the work and the finance by the public school system.

There is aside from this school a home for crippled and invalid children called the Holy Cross House, a non-sectarian organization occupying temporary quarters at 5609 Whittier Ave., which accepts and cares for children who are permanently invalided and which at present has twenty inmates. The expenses of this institution are entirely met by private benevolence, except that the Board of Education has for three years furnished a teacher to give such instruction as can be given. The matron of this institution states that in the last year they have had to turn away 60 suitable cases.

Investigation shows that while these two institutions are doing very creditable work, their facilities are entirely inadequate to meet the needs of a city of 600,000 inhabitants. These schools show how private enterprise very frequently starts meritorious work which it cannot adequately finance, which by right the city should carry on, and for which the city will have adequate funds (as it now has not), when it learns to appropriate community values through taxation for this purpose, instead of relying upon the uncertain benevolences which the wealthy may see fit to give.

NOTES AND NOTICES.

A prominent weekly newspaper a few weeks ago called attention to an article in a New York daily when presenting to its readers the protest of the British Government against the United States permitting any vessels flying the American flag making use of the Panama Canal without paying toll, that so misrepresented the contention of the British Cabinet as to convey a false impression as to its position.

And this statement is taken as a text for the theme, "To what extent shall the daily papers present medical topics as news items?" It is a timely question because of the prominence lately given to the reputed discovery of a serum in Germany and in various articles on medical discoveries to be found in the monthly magazines inclined to be tinged with yellow. It will be quite generally accepted that the day for mystery and concealment in medicine is past; that it is not necessary for the patient to be ignorant of himself or of the progress of medicine in order to receive careful attention from a physician. If this be so, then it follows that medical discovery and medical advances are as much material for presentation in the daily press as discovery and advances in any other branch of learning. As much so even as Sir Edward Grey's reply regarding the Panama Canal. So that in the abstract the publishing of information about medicine and its advances is not to be condemned.

It might be of interest to inquire, in the next case, what is the purpose of a newspaper in publishing any statement as a news item. Is it in the last analysis to give information to its readers? A newspaper that would fake a "story" that would result in a panic in the money market, that would publish statements about the war in the Balkans from a source which would naturally not be in a position to know the facts should and would receive just condemnation from the people. Self-respecting newspapers are careful to have their financial articles written by those familiar with the subject and scan the source and the authority of the informant giving news of the day. Should not the same rules prevail in publishing scientific knowledge whether medical or other? Why should the assignment be made to a bright reporter to work up the "story" about a serum unless that "story" be edited by one who is thoroughly acquainted with sera and their action? A great deal more harm is done by awakening the expectancy of the ill in the promise of a remedy which eventually fails than getting up a war scare. The conclusion then is that medical advances are news items as well as any other item of information, but should be presented to the people in such a way as to be truthful and not mislead and that those papers so doing are the papers which employ a skilled editorial supervision over its medical items and we are happy to say there are such; while those journals that wish to cater to the passions of their readers (the so-called yellow journals) probably do not err more in their presentation of medical topics than in other topics upon other subjects and should receive the condemnation of all sane thinking people.

After sending the above to the printer my attention was called to an instance of newspaper medicine, which illustrates the evil very nicely. At the recent Clinical Congress of Surgeons of North America in New York City, a patient at the Polyclinic Hospital died after a lumbar sub-arachnoid injection of stovain for spinal analgesia. The death was made the subject of a coroner's inquiry with the finding that the death was caused by "pathological conditions" as described. And yet some newspapers publish sensational reports of death caused by stovain poisoning, which made a good story; whereas, death caused by conditions produced from chronic alcoholism was too common a thing to arouse any comment. As long as newspapers strive to produce sensational stories for the impression they will produce, rather than present the truth, so long will there be the improper use of medical knowledge and medical discoveries by our newspapers.

* * *

The fourth annual meeting of the American Association for Study and Prevention of Infant Mortality will be held at Kansas City, Missouri, on October 23–25, 1913, and not in November as previously announced. The meeting of the Association will be under the presidency of Dr. L. Emmett Holt, of New York City, and the arrangements after the fashion of the last meeting, giving general sessions and section meetings. Miss Gertrude B. Knipp is the Executive Secretary who will gladly furnish any specific information to those who may be interested. She may be directed at the Medical and Chirurgical Faculty Building, 1211 Cathedral St., Baltimore, Maryland.

⁂

The tenth annual conference of the State and Territorial Health Authorities inaugurated a plan whereby the health authorities of the country could be kept informed of the prevalence of disease and the occurrence of epidemics throughout the United States. Briefly, this plan involved the telegrafing of some of the more alarming communicable diseases and regular monthly reports by mail of a list of diseases that have been determined upon. These reports are to be made in definite blanks so that the various data can be compared readily and this information is to be disseminated by the Public Health Bureau. The scheme suggested seems to be well conceived and if carried out with zeal on the part of the various health officers cannot but help conserving the health of the country.

⁂

The physicians of Madison, Wisconsin, and its surrounding territory are attempting to treat the evil of fee splitting in a practical way, and they are circulating an agreement to be signed which pledges on the part of the surgeon a small fee to patients in moderate circumstances so as to enable the patient to pay the family physician as well, pledging also if the charges of the family physician and consultant are made jointly the rendered bill shall clearly state how much is due to each. And, and most important of all, the list of signers shall be a matter of public record so that those agreeing to the proposition shall be known to all. This latter provision is the most important in the agreement, since it will prevent the assuming a virtue while not possessing it; for it will immediately separate those who would like to bribe the family physician for consulting practice, were it possible to do it quietly, from those who are seeking to live reputably and to have all the rights of the patient at heart as well as their own income. Dr. Charles S. Sheldon, Madison, Secretary of the Wisconsin State Medical Society, is chairman of the committee from whom copies of the blank and circular can doubtless be secured.

* * *

The *British Weekly* of December 24th, in commenting upon the decision of the British Medical Association to reject the proposal of the government in connection with the new insurance act, says among other things: "We desire to say nothing disrespectful to the doctors but that excellent body of public servants must be aware that they have failed to carry the public with them in their recent demands." "Public servants" forsooth! In what sense is a physician a public servant any more than an editor or any other citizen? Why should he be expected to be at the expense of carrying out the scheme of the government? Let us suppose the plan required the use of a certain amount of space in the periodical press of Great Britain, and Parliament should determine the rate which should be paid for the space taken, fixing it much below the amount usually charged for the space, would the Press submit without protest on the plea of being a public servant?

* * *

Western Medicine in Eastern Lands: Opportunities for practice are continually opening in the various hospitals under the care of various mission boards. In recent circulars, the "Student Volunteer Movement" mention the immediate necessity for two woman physicians, one for India, one for Korea, and for five trained nurses in various countries.

* * *

"Disease germs may lurk in 140 things you buy," is the "head line" to a Press service item sent out by one of our philanthropic agencies lately. It details many things that ought not to exist in connection with home industries in New York tenement houses. Among these, a pathetic incident of some little fellows carrying to the shop bundles of knee-pants when they were supposed to be at home in quarantine on account of scarlet fever. The incident is related to show the danger to the future wearers of these knee-pants of contracting scarlet fever through their wearing. Dr. A. H. Doty, in his "Prevention of Infectious Diseases," says (p. 7):

> Theories relating to the transmission of infectious disease unsupported by reliable evidence cannot be accepted by sanitary science; unfortunately, there has been a tardy recognition of this fact, which has seriously interfered with progress in establishing the true means by which infectious diseases are transmitted.
>
> An abundance of practical and scientific evidence has been presented to show that fomites rarely transmit disease.

This is not a plea that clothing should be manufactured in a quarantined apartment whether in New York or elsewhere, but the worthy effort to suppress this evil should not be bolstered by misstatements as to facts. It is true that the fomites theory has had a long life and been popular. It is only another evidence of the inconvenience of scientific progress. Some mother whose child has developed scarlet fever, upon reading this article might blame the store-bought knee-pants, when the true cause is a neighbor boy, apparently healthy, but a "carrier;" and because of the fomites theory is permitted to cause other mothers to put the blame on the sweat-shop, since the cause has not been looked for in a person.

NECROLOGY.

1912.	Nov. 2.	C. Galen Treichler.
	Nov. 19.	Richard A. Cleemann.
	Dec. 21.	F. R. Wheeler.
Date not known		Andrew R. G. Smith.

LITERATURE NOTES.

REVIEW.

Carnegie Foundation for the Advancement of Teaching. Medical Education in Europe. Bulletin Number Six. 1912.

There is one thing that is especially noticeable in this excellent report of Mr. Abraham Flexner. He is less inclined to give his opinions in the *ex cathedra* manner of his previous publications, thereby showing more scientific spirit. The book is opened by an introduction by President Pritchett, which has already received notice in a previous number of the Bulletin, and the report itself is divided into thirteen chapters treating of the following subjects:

I. Historical.
II. The Number and Distribution of Physicians.
III. The Basis of Medical Education.
IV. The Preliminary Sciences: Physics, Chemistry, and Biology.
V. The Medical Sciences: Germany.
VI. The Medical Sciences: Great Britain and France.
VII. Clinical Instruction: Germany.
VIII. Clinical Instruction: Great Britain.
IX. Clinical Instruction: France.
X. Curriculum and Examinations: Germany.
XI. Curriculum and Examinations: Great Britain and France.
XII. The Financial Aspects of Medical Education.
XIII. Sects and Quacks.
XIV. Post-graduate Education.
XV. Medical Education of Women.

Each one can be made the text for a careful review. This being impossible, it remains but to take one or two points to the exclusion of others of equal importance and interest.

One is almost surprised, in reading Chapter I, at the newness of the modern concept of medical teaching. So recent, indeed, is it that no more than a tentative outline of a medical course should be attempted. The formative processes are still at work and those efforts which are made definitely to parcel out the time given for medical education among the various branches only add confusion to a complex problem.

It is clearly to be seen that the author has a profound respect for everything German and has not yet attained unto a fulness of the scientific method of investigation. He still states his proposition and seeks to prove it afterwards rather than deducing a conclusion from all the facts obtainable. He is a hobby writer as well, as is seen when he condemns the English schools as inferior to those of Germany simply because they are commercial and preparatory schools.

In Chapter II the investigation shows that the proper education of the physician will not diminish the number of practisers to the degree that the supply will be inadequate.

We learn from Chapter III that "three-fourths of the students beginning the study of medicine at the German university are under twenty-one years of age," but here, as elsewhere, the average age is rising. This time limit is a question that should be carefully considered in the devising of requirements for the practice of medicine in the United States, and here again the formulation of inflexible rules acts as a hindrance rather than as a help to the real progress of medical education.

There are many things worth quoting from the chapter on "The Basis of Medical Education," but we select the following:

> The main difficulties are these: the age of the entrance upon the study of medicine is rising—economically and educationally a distinct misfortune. To make things worse, the curriculum has steadily expanded. Despite increased strength, it is still packed to the bursting point, as mere enumeration of its contents will prove. The student must now get, wholly within the university if classically trained, physics, chemistry, biology, anatomy, physiology, pharmacology, bacteriology, pathology, hygiene, medicine, surgery, gynecology, obstetrics, pediatrics, etc. The task, however modestly conceived, is practically impossible. But if the learning of physics, chemistry, and biology were remanded to the secondary school, congestion would be to that extent relieved and the more thorough training thus procurable would also elevate the grade of work in the medical sciences.

And yet, there are those in American medical schools who object to the teaching of chemistry, biology and physics in the preliminary education.

Notwithstanding the author's admiration of German physicians and the German medical course, there are some things in the preliminary education that do not meet his full approval. Thus we read: "Despite the breaking of the humanistic monopoly a decade ago, the numbers who have preferred the scientific basis are so small that for practical purposes medical education in Germany may be said to have rested thus far on the basis of a classical secondary education." Possibly this may in part account for the superiority of the German physician as a scientific investigator, since education is to develop power and not to furnish facts. To quote again: "The German student of medicine for the most part has known no science at the start; he has been accustomed to alien modes of thought and application, but to thought and application he has at any rate been no stranger," and is not this the principal thing?

In the chapter devoted to "Physics, Chemistry and Biology," he discusses at some length on the desirability of having these subjects taught either in the medical department or in the preparatory school. One thing is clear, every part of even the minimum education cannot be attempted at the psychologic moment. There must be compromise; the real problem is: how to compromise to secure the best results.

We quote the concluding paragraph of this chapter with unqualified approval:

> Before leaving the topic, let me revert to a statement already made. I have said that for centuries medical education lagged far behind medical thought and practice. Can it have caught up now? Medical thinking and medical progress involve chemistry, physics, biology, and mathematics at every stage. The teachers of medicine, who are also creators, are well trained chemists and physicists. Can they teach at the level at which they work? Not unless their students have been betimes thoroughly trained in the sciences from which medicine has latterly derived so much of its impetus. The defects pointed out in the basis of medical education still keep it from overtaking medical science. Education can in no event include the whole of medical science; but it may well be of the same piece, provided the student of medicine knows chemistry, physics, and biology.

Coming to his discussion of the medical sciences themselves, we read again:

> Meanwhile, as the medical sciences increase in number and importance, it becomes clear that the undergraduate student of medicine cannot do everything. One can concede that the Germans waste time in lecturing and still maintain that in no event can the ordinary medical curriculum be completely representative of all the elements that constitute scientific medicine. The very hopelessness of thorough mastery brings out in clear relief the fact that medicine is scientific, not because of this or that positive possession in the shape of knowledge, but by reason of its adherence to an exemplification of a certain method. It matters little what particular facts the student knows at graduation, for he can in any case know comparatively few, provided intensive training in a few branches has fixed a keen and sound mental disposition. If he has contracted the inquiring habit, if he can de-

tect logical error, if he can use his senses and his fingers, he has been well educated in essentials. He gets such an education by doing a few subjects thoroughly rather than by doing many superficially. By all means let there be a student's experimental course in pharmacology, but it need not be universally required, if at the same time the corresponding course in physiology is properly elaborated. An intensive course in one or the other, as the student may choose, is better than a brief course in both, and such an option is decidedly in keeping with German tendencies. Moreover, the medical curriculum is not a mosaic of separate pieces. Its different constituents are not permanently marked off from one another by sharp unbending lines. Anatomy is supplemented and to some extent retaught in pathology and surgery; pharmacology may be touched again in therapeutics and the clinic. Excellent pharmacological studies come nowadays from the clinic; inevitably, where the clinician is so often first a physiologist. The opportunity to acquire the pharmacological point of view does not then terminate with the lecture course which the student is required to hear.

Again we comment that some of our American efforts seem to be made on the supposition that the medical graduate is a completed product.

And thus we might skim and quote and comment, but enough has been said to show the character and the intense value of the work. To our mind it is by far the best of the series of bulletins that have been issued by the Carnegie Foundation.

CHARLES McINTIRE.

NOTICES.

THE STUDY OF INDIVIDUAL CHILDREN. A SYSTEM OF RECORDS, INCLUDING A COMPLETE CHILD HISTORY, MEDICAL EXAMINATIONS, PHYSIO-PSYCHOLOGICAL AND MENTAL TESTS, DAILY REGIMEN AND DISEASE RECORD, ALSO CASE DIAGNOSIS, CLASSIFICATION, ETC. By MAXIMILIAN P. E. GROSZMANN, PD.D., Educational Director of the National Association for the Study and Education of Exceptional Children. Published at Plainfield, N. J. Price, 60 cents; postage, 3 cents.

Dr. Groszmann has gathered together in this book the various records, either devised or adapted by him, for the rational study of the conditions of atypical children in order that proper treatment be instituted. He accompanies the diagrams of the blanks used with sufficiently full information to make it possible for any intelligent student of child life to make use of them. In these days when the vision of the prophet is fulfilling in a way not as usually explained and the little child is leading everyone, the hosts of those engaged in the effort for child welfare should possess themselves of a copy of this work.

HANDBOOK OF LAWS REGULATING WOMAN'S HOURS OF LABOR AND A STANDARD LAW EMBODYING THE BEST PROVISIONS OF THE MOST EFFECTIVE STATUTES NOW IN FORCE. By JOSEPHINE GOLDMARK. National Consumers' League, 106 East 19th St., New York City. Price, 15 cents.

This excellent little monograf begins by expressing clearly yet concisely the need of shorter hours of labor, gives comparative schedules regarding certain provisions of existing laws with extracts from statutes, and then suggests a standard law, giving in detail the reasons for the provisions incorporated therein. The final section is devoted to the text of the opinion of the Supreme Court of the United States in the case of Muller *vs.* the State of Oregon. Any one interested in the subject should possess themselves of a copy of this pamphlet.

A FREE LANCE. BEING SHORT PARAGRAPHS AND DETACHED PAGES FROM AN AUTHOR'S NOTE BOOK. By FREDERIC ROWLAND MARVIN. Boston: Sherman, French & Co. 1912. 196 pp. $1.25 net.

We have had pleasure in looking through this charming book for it is made for a taste and a recollection. As the subtitle indicates, it is composed of a series of "studies," some of but a few strokes, others of greater pretensions, quite finished pictures in fact. There is no connection between the articles. Thus, A Perfect Temperament, Civilization, Cooperation, Jefferson, Our National Emblem, Swedenborg as a Poet, are half a dozen consecutive titles selected at random. The sketches of whatever length or finish are all a pleasure to read. One shakes one's head at times at the opinions exprest but the expression itself is not displeasing. It is a book to make the waiting intervals in life short. Many will bless the physician who places a copy in his waiting-room.

DIE HYGIENISCHEN VERHÄLTNISSE DER INSEL FORMOSA. IM AUFTRAGE DES GENERALGOUVERNEMENTS FORMOSA herausgegeben von DR. T. TAKAKI. Dresden, 1911. Druck von C. C. Meinhold & Söhne, Kgl. Hofbuchdruckerei. Cloth. 232 pp., with many illustrations and a map.

This handsomely gotten up and superbly illustrated monograf details what has been done for the hygienic improvement in the

Island of Formosa since it came under the control of Japan. The opening chapters treat of the geography, climate, and the people, and then, following, descriptions are given of the various means employed to secure the health of the people, including chapters on the medical school, the hospitals, physicians and nurses. Later on there are chapters on the plague, malaria and other infectious diseases; descriptions of the medical and poisonous plants and poisonous serpents. In fine, there is crowded into the 232 pages a fund of information of interest and value to every sanitarian.

E. MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. Vol. xxv. 508 pp.

Those who are familiar with these annual reports of Merck need not be told that they are in no wise trade publications or a catalog of preparations, but a careful review of the literature in pharmacological research. The past few years, in addition to the annual review, there have been comprehensive special articles covering a larger space of time than the year under review. Two such are given in the present number: The Glycerophosphates, and Digitalis Glucosides and Allied Drugs. It is a valuable volume of reference to the practitioner and may be had from the firm's New York office, 45 Park Place, upon remittance of 15 cents in post-stamps to pay forwarding charges.

NOTES.

The regular readers of the *Los Angeles Times* doubtless had dissimilar opinions of the value of the "Mid-winter Number," issued on January first, depending upon whether their paper was delivered to them or purchased at a news-stand. It consisted of nine parts, making 216 pages in all. Notwithstanding its size, the quality is not diluted. It is a surprising manifestation of newspaper energy.

The University of Toronto *Medical Bulletin* simply announces itself as "a publication devoted to clinical and laboratory work carried on by members of the University of Toronto medical staff, in the city hospitals." Vol. I, No. 1, contains twelve papers of value, making a better prospectus than any promises in superlative generalities could do.

The editorial staff of the *Survey* has been strengthened by the addition of Dr. Alice Hamilton, medical officer of the Illinois Commission on Industrial Diseases, who will edit the department of health.

The progressive teacher is finding it necessary to keep his scholars alert on present-day problems and current events; and all over the country are to be found classes making use of the current magazines as an assistance in this. Among the latest for these is the Washington Irving High School of New York, which has a class of four hundred girls who are studying the *Literary Digest* each week, and the reports show an increasing interest and enthusiasm in the study.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list records the publications received (other than periodicals in exchange) from November 19, 1912, to January 27, 1913, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Bulletin of the Bureau of Labor: No. 101, Care of Tuberculosis Wage Earners in Germany. No. 104, Lead Poisoning in Potteries, Tile Works, and Porcelain Enameled Sanitary Ware Factories. No. 105, Part 1, Retail Prices, 1890 to 1911. No. 106, Part 2, Retail Prices, 1890 to June, 1912. No. 108, Retail Prices, 1890 to August, 1912. No. 110, Retail Prices, 1890 to October, 1912.

Sixty-fourth Registration Report of the State of Connecticut for the year ending December 31, 1911.

Proceedings of the Thirty-ninth Annual Session of the National Conference of Charities and Correction, Cleveland, Ohio, June 12–19, 1912.

Forty-fifth annual Report of the State Board of Charities of the State of New York: Statistics; Appendix to Vol. I. Vol. I. Text Appended Papers. Vol. II. Directory of Poor Law Officers and Charities. Vol. III. Manual of Laws and Rules of the Board.

Need for Better Vital Statistics. Report of Health Committee of Association of Life Insurance Presidents.

The Influence of Vital Statistics on Longevity. Watson S. Rankin, M.D., Raleigh, N. C.

The Importance of the Local Laboratory in Medical Practice—The County Laboratory. William S. McGill, A.M., M.D., Albany, N. Y. (Reprint.)

The Child Labor Bulletin, November, 1912.

A Plea for the Old-fashioned General Practitioner. Joseph C. Guernsey, A.M., M.D., Philadelphia. (Reprint.)

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THE RELATION OF THE FOREIGN POPULATION TO THE MORTALITY AND MORBIDITY RATE OF PHILADELPHIA.[1]

By L. J. HAMMOND, M.D., and C. H. GRAY, M.D., Philadelphia, Pa.

The phase of the symposium which has been assigned us is fraught with considerable difficulty, especially as it pertains to immigration in its relation to morbidity and mortality—largely because of the lack of classification that enables one to make accurate deductions. However, there are certain facts that can be, with reasonable accuracy, gathered from these reports. During the fiscal year beginning July 1, 1910, and ending June 30th, 1911, the number of immigrants inspected were 46,857. Of this number 45,583 were passed free from recognized disease while 1319, or $2^4/_5$ per cent., were found to be suffering from either mental or physical defects or disease. Of this number 247 were deported and therefore have no place in the present problem.

This morbidity table of 1319, or $2^4/_5$ per cent., is of importance as indicating the wide range of affections that exist among the immigrants that, if permitted to remain, would have such an increased effect both on morbidity and mortality. Especially does this seem true of diseases of the eye, favus, hernia, senile debility and mental defects. To begin with, we have on landing: eye diseases, 13 per cent.; favus, 6 per cent.; hernia, 5 per cent.; senile debility, 16 per cent. We have been unable to secure reliable statistics as to the number of those admitted free from disease, that were taken sick during the year 1910 except by deduction, *i. e.*, 7229 deaths occurred during this period, presumably from among the 46,610 that were passed, or 15.5 per cent. mortality among the immigrants in Philadelphia during that fiscal year. Unfortunately, the records of death are not specific as to whether they were from among the immigrants landing in 1910 or the year previous, which invalidates this 15.5 per cent. in so far as it belongs to that fiscal year. It will be observed, however, that the highest death-rate is from cirrhosis of the liver, nephritis and pulmonary phthisis—any or all of which could have and most surely did escape detection at the time of examination for admission. For these chronic diseases the Pennsylvania Tuberculosis Society has adopted an approximate means of estimating the number of persons suffering from that particular disease and have found it to have a practical working value, namely: for every death they estimate that there are 3½ persons suffering from the disease. On this basis the morbidity among the immigrants would be:

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[1] Read at the 37th annual meeting of the American Academy of Medicine, Atlantic City, June 1, 1912.

Cirrhosis of the liver—192 × 3½ = 672 of the total number admitted, or 1.5 per cent.;

Nephritis—903 × 3½ = 3160 of the total number admitted, or 6 per cent.;

Phthisis—735 × 3½ = 2572 of the total number admitted, or 5.5 per cent.;

while of acute lung diseases, such as pneumonia, there were 528 deaths, or 528 × 3½ = 1848 of the total number admitted, or 4 per cent., and so on through the list of chronic diseases. This method of computing the prevalence of disease from the death-rate is supported by the report of the Medical Inspector of Immigrants for the port of Philadelphia, as we find there were 1319 persons suffering from some form of illness out of the total 45,583 passed, bringing the percentage to about 2.8.

The experience and observation of those of large clinics seem to support the accuracy of this method of computation with the exception of diseases of the eye, which belong peculiarly to the Italian immigrant, and far exceed this morbidity percentage.

MORBIDITY TABLE. CLASSIFICATION OF DISEASES.

Total number.	Disease.	Percentage of immigrants.
12	Abscess (not specified)	1.0
5	Acne rosacea	0.4
2	Acne vulgaris	0.15
6	Adenitis (chronic cervical)	0.5
2	Alcoholism (acute)	0.15
6	Alopecia areata	0.05
16	Ankylosis (shoulder) " (finger) " (hand) " (knee joint)	1.25
1	Asthma	0.1
15	Arrested sexual development	1.20
1	Atrophy (leg)	0.1
6	Blepharitis	0.5
86	Blindness (both eyes) " (one eye)	6.50
2	Furunculosis	0.2
5	Bronchitis (acute)	0.4
4	Bronchocele	0.3
1	Carbuncle	0.1
23	Cataract	2.0
1	Cicatrix (face)	0.1
1	Chorea	0.1
61	Cicatricial lids	5.0
1	Cleft palate and hare lip	0 1
5	Club foot	0.4
21	Coloboma	1.75
26	Corneal opacity	2.0
63	Conjunctivitis (acute)	5.0
1	Deformity of pupils	0.1
1	Diphtheria	0.1
2	Dislocation of shoulder	0.5
16	7 Deafness 9 Defective (speech and vision)	1.3
1	Deformity of right arm	0.1
1	Diminished chest expansion	0.1
4	Dislocation of elbow and hip	0.3

Morbidity Table (*Continued*)

Total number.	Disease.	Percentage of immigrants.
2	Deformity of finger	0.2
4	Eczema	0.3
1	Enlargement of testicle (orchitis)	0.1
2	Enteric fever	0.2
1	Eccentricity (marked)	0.1
3	Ectropion	0.25
7	Erysipelas	0.5
1	Erythema	0.1
9	Favus	0.6
1	Fracture of left clavicle	0.1
2	Feeble-minded	0.2
1	Fracture of frontal bone	0.1
1	Fracture of humerus	0.1
1	Gastro-enteritis	0.1
24	Goitre	2.0
67	Hernia	5.50
1	Hip joint (coxalgia)	0.1
3	Hydrocele	0.3
2	Idiocy	0.2
5	Impetigo contagiosa	0.4
1	Ichthyosis	0.1
3	Keratitis (chronic)	0.25
30	Lame	2.50
1	Locomotor ataxia	0.1
22	Loss of arm " finger " leg	2.0
1	Lupus	0.1
4	Mumps	0.3
2	Marasmus	0.2
51	Measles	4.25
2	Nystagmus	0.2
1	Necrosis of bone	0.1
3	Otitis media	0.25
12	Pneumonia	1.0
10	Hemiplegia Infantile paralysis (chronic) Facial paralysis	0.8
1	Pemphigus	0.1
2	Muscular atrophy	0.2
2	Papilloma	0.2
1	Pott's disease	0.1
194	Pregnancy	16.0

MORBIDITY TABLE (*Continued*)

Total number.	Disease.	Percentage of immigrants
4	Psoriasis	0.3
2	Ptosis	0.2
2	Rickets	0.2
1	Rhinitis (chronic)	0.1
1	Rheumatism	0.1
5	Ringworm	0.4
1	Rudimentary hand	0.1
7	Scars of face	0.5
2	Scabies	0.2
6	Scarlet fever	0.5
196	Senile debility	16.0
1	Soft chancre	0.1
1	Sebaceous cyst	0.1
16	Scoliosis	1.3
3	Syphilis (secondary)	0.25
1	Sprain of knee-joint	0.1
1	Stab wound of throat	0.1
2	Tonsillitis	0.2
157	Trachoma	13.0
7	Tuberculosis (pulmonary)	0.5
5	Undersized	0.4
3	Urethritis including gonorrhea	0.25
6	Valvular heart disease	0.5
3	Varicella	0.25
1	Varicose veins of leg	0.1
1	Whooping-cough	0.1
2	Wound of hand " leg	0.2
4	Torticollis	0.3
1319		

The picture of morbidity as presented by this table is not impressive as a source from which accurate conclusions could be reached concerning diseases among the immigrants after landing, as the defects and deformities classed among the table of diseases need have no bearing on either morbidity or mortality, with the exception possibly of such diseases as trachoma, favus, spinal disease and those of diminished chest expansion, which are either communicable or show a tendency to the development of systemic diseases.

The total number of deaths in the City of Philadelphia during the fiscal year 1910 was 26,562, or 1.5 per cent. of the total population and the total number of immigrants that died that year was 7229, or 0.5 per cent. of the total population. Assuming these deaths to have occurred among the 46,610 that were passed during the year, the percentage is 2.5 of the total death-rate—which makes the death-rate among the immigrants about 1 per cent. higher than among the native population, and the morbidity 3.5 per cent. higher.

MORTALITY TABLE.

Total number.	Disease.	No. of immigrants.	Percentage of immigrants.
270	Typhoid fever	80	26.0
12	Malarial fever	3	25.0
5	Small-pox	1	20.0
148	Measles	10	6.0
135	Scarlet fever	12	9.0
327	Whooping-cough	2	0.6
476	Diphtheria	17	3.0
102	Influenza	34	33.0
13	Cholera nostras	9	70.0
31	Dysentery	11	31.0
77	Erysipelas	23	34.0
20	Epidemic cerebrospinal meningitis	2	10.0
3	Chicken-pox	0	0.0
41	Septicemia	11	25.0
2	Anthrax	2	100.0
5	Rabies	0	0.0
12	Tetanus	1	8.0
1	Mycosis	0	0.0
1	Pellagra	0	0.0
2873	Phthisis (lungs)	735	26.0
50	Tuberculosis (acute miliary)	7	14.0
44	" (larynx)	12	27.0
183	" (meningitis)	13	7.0
97	" (abdominal)	23	25 0
9	Pott's disease	5	56.0
46	White swelling. Disseminated tuberculosis Tuberculosis of other organs Rickets	5	10.0
102	Syphilis	15	15.0
5	Gonococcus infection	0	0.0

MORTALITY TABLE (*Continued*)

Total number.	Disease.	Number of immigrants.	Percentage of immigrants.
1304	Cancer (mouth)	581	45.0
	“ (stomach and liver)		
	“ (intestines and peritoneum)		
	“ (genital)		
	“ (breast and skin)		
	“ (organs unspecified)		
22	Tumor (non-cancerous)	6	27.0
154	Rheumatism (acute and chronic)	41	26.0
3	Scurvy	0	0.0
220	Diabetes	102	46.0
19	Goitre (exophthalmic)	4	2.0
9	Addison's disease	4	44.0
26	Leukemia	7	27.0
9	Anemia (chlorosis)	17	20.0
120	Alcoholism	46	40.0
	Lead poisoning		
	Other occupation poisons		
16	Encephalitis	3	9.0
73	Meningitis	6	8.0
44	Locomotor ataxia	10	25.0
9	Anterior poliomyelitis	0	0.0
97	Other diseases of the spinal cord	28	27
1011	Apoplexy	295	29
315	Softening of the brain	174	58.0
	Paralysis		
	General paralysis of insane		
	Other forms of mental diseases		
	Other diseases of brain		
59	Epilepsy	15	26.0
81	Convulsions of infants	2	2.50
	Chorea		
31	Neuralgia and neuritis	9	29.0
	Other diseases of the nervous system		
58	Diseases of eye and ear	8	15.0
	Diseases of Circulatory System.		
2923	All diseases of heart	1260	44.0
	Pericarditis		
	Endocarditis		
	Angina pectoris		
581	Diseases of arteries and veins	273	47.0
	Thrombosis and embolism		
	Hemorrhage		
9	Diseases of lymphatics	2	25.0

MORTALITY TABLE (*Continued*)

Diseases of Respiratory System.

Total number.	Disease.	Number of immigrants.	Percentage of immigrants.
1	Diseases of nasal fossa	1	100.0
17	Diseases of larynx	3	16.0
3	Diseases of thyroid	0	0.0
416	Bronchitis (acute)	73	18.0
1243	Bronchitis (chronic) Broncho-pneumonia	238	19.0
1715	Pneumonia Pleurisy	427	25.0
296	Congestion apoplexy and gangrene of lungs	101	33.0
108	Asthma Emphysema Other unclassified diseases of R. T.	62	57
127	Diseases of mouth including dentition...	2	1.25
19	Diseases of pharynx and esophagus	8	40.0
306	Diseases of stomach including ulcers of stomach	76	25.0
2233	Diarrhea in children (under 2 mos.)	0	0.0
309	Diarrhea in children (over 2 mos.)	89	30.0
2	Intestinal parasites	2	100.0
192	Appendicitis typhilitis	39	20.0
232	Intestinal obstruction, including hernia.	73	31.0
411	Diseases of liver (all)	192	49.0
3	Diseases of spleen	1	$33.33^{1}/_{3}$
8	Peritonitis (non-puerperal)	2	25.0
13	Unclassified diseases of digestives	6	49.0
	Diseases of Genito-Urinary System.		
2334	Diseases of kidneys	920	39.0
129	Diseases of ureters, bladder, urethra and prostate (non-venereal)	46	36.0
160	Diseases of uterus and adnexa, non-malignant and non-specific	34	22.0
	Puerperal State.		
281	Various accidents and complications of pregnancy and puerperium	111	39.0
	Diseases of the Skin.		
161	Gangrene furunculosis and abscess	59	38.0
51	Diseases of osseous system	7	14.0
177	Malformations (congenital) and deformities	1	5.0

Mortality Table (*Continued*)

Early Infancy.

Total number.	Disease.	Number of immigrants.	Percentage of immigrants.
1115	Premature birth and congenital debility	0	0.0
285	Senility	164	57.0
299	Death by all forms of suicide	126	42.0
1070	Accidental deaths by food, burns, conflagration, gas, drowning, fire-arms, cutting instruments, falls, machinery, railroads, crushings, and animal bites; starvation, cold, freezing, heat, electricity	367	33.0
92	Homicides by fire-arms, cutting instruments, etc.	36	40.0
129	Other external violence, dislocations, fractures, injuries at birth	31	25.0
263	Ill defined diseases of child (over 3 months)	5	2.0
26562		7229	

APPENDIX.

Methodist Hospital Report of Immigrants Admitted during the Fiscal Year under Discussion. Total Number of all Cases Admitted—1908.

	Cured.	Improved.	Unimproved.	Not treated.	Died.
Russia:					
Articular rheumatism	2	3	1		
Gunshot wound	1				
Bronchitis	1	1			
Colles frac. r. arm	1				
Ethmoiditis	1				
Fibroid of uterus				1	
Right inguinal hernia				1	
Endometritis	1	1			
Intestinal auto-intoxication	1	1			
Laceration of perineum	1				
Retroversion of uterus	2				
Anal abscess	1				
Burns of hands, arms and buttocks	1				
Fecal impaction	2				
Umbilical hernia				1	
Heat stroke	1				
Appendicitis	4				
Fistula in ano	3				
Cataract		1			
Concussion of brain	1				
Perirectal abscess	1				
Enteric fever	1				
Coxarum r. femur		1			

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Improved.	Unimproved.	Not treated.	Died.
Russia (continued):					
Exophoria	1				
Bronchial asthma		1			
Stab wound in back	1				
Pulmonary edema					1
Contusion of leg and thigh	1				
Varicose veins		1			
Retrodisplaced uterus				1	
Typhoid fever	2				
Abortion	1				
Hysteria		1			
Frac. l. tibia and fibula	1				
Appendiceal abscess	1				
Secondary syphilis		1			
Frac. of int. condyle of r. humerus	1				
Infected knee		1			
Foreign body in hand			1		
Piece of needle in meta. bone of thumb		1			
Hemorrhoids	3				
Abscess of breast	1				
Right ovarian abscess	1				
Incomplete abortion	1				
Enlarged tonsils and adenoids	1				
Papilloma of lip	1				
Syphilis	1?				
Total	64				
Ireland:					
Cholecystitis	1				
Carcinoma of larynx	1				
Cataract	7	1			
Cataract, secondary	1				
Cleft palate	1				
Erysipelas	1				
Enteric fever	2				
Carcinoma of uterus	1		1		
Left hemiplegia		1			
Double hydrocele of cord	1				
Appendiceal abscess	1				
Incomplete abortion	2	1			
Cutical material in r. eye		1			
Acute appendicitis	1				1
Heat stroke	1				2
Concussion of brain	2				
Endometritis	1				
Fistula in ano				1	
Chronic nephritis					
Sepsis from abortion					1
Cystitis		1			
Cystocele			1		
Acute indigestion	1				

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated.	Died.
Ireland (*continued*):					
Congestion of lungs	1				
Bronchitis	1				
Chronic endocarditis		1			
Sprain of thigh and leg		1			
Fracture of femur		1			
Fracture of rib		1			
Fracture of tibia		1	1		
Syphilitic ulcer of l. leg			1		
Lobar pneumonia					1
Right inguinal hernia		1			
Femoral hernia		1			
Crush of r. leg		1			
Uremia					1
Infected hand			1		
Infected l. leg		1			
Ununited frac. r. femur		1			
Opacity of cornea			1		
Opium poisoning	1				
Left internal strabismus		1			
Acute eczema of hands and face	1				
Acute alcoholism	1				
Orchitis		1			
Gangrene of toes of both feet (frost bite)	1				
Arterio sclerosis		1			
Mitral insufficiency	1				
Iritis		1			
Phimosis	1				
Chr. inters. nephritis			1		
Influenza with pleurisy	1				
Cerebroplasm?		1?			
Burns of face		1			
Fibroid of uterus	1				
Rectocele	1				
Retroversion	1				
Double senile cataract	1				
Inter. capsular frac. of r. femur	1				
Lacerated cervix and perineum	2				
Enlarged tonsils and adenoids	1				
Hemorrhoids	1				
Total	80				
Germany:					
Acute artic. rheumatism	1				
Pleurisy (tuberculosis?)		1			
Rectocele	1				
Inguinal hernia	1				1
Septicemia (plastic op.)	2				
Laceration of finger	1				
Lacerated wound of arm		1			
Uremia					1
Appendicitis	1				

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated	Died.
Germany (continued):					
Appendiceal abscess	1				
Mitral stenosis					1
Tuberculosis of r. knee	1				
Cataract	1	2			
Cervical prolapsus recti	1				
Chronic intestinal obstruction			1		
Gastric neurosis		1			
Stricture of esophagus		1			
Left gluteal abscess	1				
Fistula in ano	1				
Prolapsus of iris	1				
Strangulated hernia	1				
Diabetic gangrene		1			
Carbuncle on neck	1				
Otitis media	1				
Enteric fever	1	1			
Lues		2			
Varicose ulcers	1				
Burns of abdomen and both extremities					1
Bronchial asthma		1			
Complete abortion	1				
Enlarged tonsils and adenoids	1				
Chronic endometritis	1				
Hypertrophied prostrate	1				
Chronic interstitial nephritis		1			
Empyemia of gall bladder					1
Chronic myocarditis					1
Gastroptosis with hyperacidity	1				
Necrosis of lower ribs					
Chronic sinus of leg	1				
Fibroid degeneration	1				
Carcinoma of breast		1			
Osteomyelitis	1				
Necrosis of 6th and 7th l. ribs	1				
Hemorrhoids	1				
Chronic glaucoma		1			
Contused back	1				
Total	52				
England:					
Palmar abscess		1			
Chr. art. rheumatism		1			
Intestinal indigestion		1			
Fracture of condyle of humerus		1			
Complete abortion	1				
Ep. cerebrospinal meningitis					1
Burns of thorax, abdo. and legs	1				
Congested liver		1			
Varicose veins of r. leg		1			
Gangrene of l. foot	1				
Saphenous phlebitis	1				

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated.	Died.
England (*continued*):					
Abortion	1				
Toxic delirium	1				
Extrauterine pregnancy	1				
Deflected septum	1				
Double cataract		1			
Ptomaine poisoning	1				
Uterine retro displacement	1				
Enteric fever	1				
Inguinal hernia	1				
Neuritis		1			
Extrauterine pregnancy	1				
Strangulated umb. hernia					1
Chronic valvular disease of heart		1			
Typhoid fever	1				
Pul. "hemor"	1				
Pul. hemorrhage		1			
Arterio sclerotic myocarditis		1			
Chr. rheumatism		1			
Bilateral cataract	1	1			
Carcinoma of stomach					1
Comp. fracture of r. tibia	1				
Chr. lead poisoning		1			
Cystocele and rectocele	1				
Enlarged tonsils and adenoids	1				
L. secondary cataract		1			
Chr. interstitial nephritis					1
Cataract		1			
Influenza	1				
Fracture base of skull					1
Chronic pancreatitis	1				
Glaucoma		1			
Cholecystitis	1				
Traumatic asphyxia	1				
Herpes zoster	1				
Chr. pancreatitis	1				
Intestinal obstruction				1	
Enlarged tonsils and adenoids	1				
Total	49				
Italy:					
Typhoid	1				
Frac. of ribs and spinal processes		1			
Left otitis media	1				
Retroversion	1				
Hepatic cirrhosis		1			
Lac. tendon	1				
Variocele	1				
Carcinoma of liver			1		
Probable frac. of l. foot		1			
R. iliac abscess	1				
Endometritis lipoma	1				
Cystitis	1				

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated.	Died.
Italy (continued):					
Nocturnal epilepsy(?)			1		
Abortion	1				
Alcoholic neuritis		1			
Sprain of r. ankle	1				
Anterior synechia		1			
Appendicitis	1				
Enuresis		1			
Fistula in ano	1				
Contusions of face and eyes		1			
Contusions of legs and head	1				
Gas poisoning	1				
Comp. frac. of r. tibia	1				
Ankylosis of 4, 2, 5, fingers	1				
Sulphuric acid poisoning	1				
Double salpingitis	1				
Tumor vagina	1				
Total	27				
Wales:					
Carcinoma of breast	1				
Influenza with pleurisy	1				
Varicose veins of leg	1				
Total	3				
Nova Scotia:					
Endocarditis		1			
Holland:					
Separation of l. quadriceps tendon		1			
Elephantiasis neuro-fibroma		1			
Evulsion of r. quadriceps		1			
Total		3			
Roumania:					
Endometritis		1			
Contusion of r. side	1				
Gas poisoning	1				
Abscess of breasts		1			
Total	4				
Austria:					
Abscess of left breast	1				
Infected right arm	1				
Inguinal hernia	1				
Gastritis		2			
Incomplete abortion	1				
Incised wound of l. thigh		1			
Typhoid perforation					1
Pelvic adhesions		1			
Suppurative mastitis		1			
Total	10				

METHODIST HOSPITAL REPORT (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated.	Died.
Scotland:					
Pleurisy	1				
Miscarriage	1				
Enlarged tonsils and adenoids	1				
Meningitis					1
Infected hip	1				
Influenza and suppurative otitis media	1				
Threatened abortion	1				
L. inguinal hernia				1	
Total	8				
Sweden:					
Enlarged tonsils and adenoids	1				
Lipoma on r. side	1				
Cholelithiasis	1				
Croupous pneumonia	1				
Malaria	1				
Typhoid	1				
Neurasthenia			1		
Total	7				
South America:					
Syphilis		1			
Canada:					
Myocarditis		1			
Chr. nephritis		1			
Incised wound of l. arm		1			
Total	3				
France:					
Cystocele and rectocele and retroverted uterus	1				
Abdominal abscess		1			
Hemorrhoids and fissures of rectum	1				
Total	3				
Persia:					
Pulmonary tuberculosis					
Belgium:					
Infection of r. foot		1			
Prussia:					
Corneal ulcers		1			
Turkey:					
Fracture of 8th rib		1			
Norway:					
Cystocele and relaxed perineum	1				
Spondyiolithesis		1			
Fract. of r. tibia and clavicle		1			
Total	3				

Methodist Hospital Report (*Continued*).

	Cured.	Im-proved.	Unim-proved.	Not treated.	Died.
Poland:					
Septicemia	1				
Acute indigestion	1				
Total	2				
Finland:					
Croupous pneumonia			1		
Denmark:					
Infected r. hip	1				
Hungary:					
Fracture of humerus		1			
Infected elbow		1			
Total		2			
Australia:					
Threatened abortion	1				
Double juvenile cataracts	1				
Traumatic cataract		1			
Total	3				
Cuba:					
Chr. endocarditis and nephritis					1
Enlarged tonsils and adenoids	1				
Total	2				
Portugal:					
Enlarged tonsils and adenoids	1				

Russia. Contributes 64 cases admitted for treatment with mortality of 3/5 per cent., or one death.

Ireland. Contributes 80 cases admitted for treatment with 6 deaths, or mortality of $7^{1}/_{2}$ per cent.

Germany. Contributes 52 cases admitted for treatment, with 5 deaths, or $9^{2}/_{3}$ per cent. mortality.

England. Contributes 49 cases admitted for treatment, with 6 deaths, or mortality of $12^{1}/_{4}$ per cent.

Italy. Contributes 27 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Wales. Contributes 3 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Nova Scotia. Contributes 1 case admitted for treatment, with no deaths, or mortality of 0 per cent.

Holland. Contributes 3 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Roumania. Contributes 4 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Austria. Contributes 10 cases admitted for treatment, with 1 death, or mortality of 10 per cent.

Scotland. Contributes 8 cases admitted for treatment, with 1 death, or 12½ per cent. mortality.

Sweden. Contributes 7 cases admitted for treatment, with no deaths, or 0 per cent. mortality.

South America. Contributes 1 case admitted for treatment, with no deaths, or mortality of 0 per cent.

Canada. Contributes 3 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

France. Contributes 3 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Persia, Belgium, Prussia and Turkey. Each contributed one case admitted, with no deaths, or mortality of 0 per cent.

Norway. Contributes 3 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Poland. Contributes 2 cases admitted for treatment, with no deaths, or mortality of 0 per cent.

Finland, Denmark, Hungary, Australia, Cuba and Portugal. Contributed 10 cases admitted for treatment with 1 death, or mortality of 10 per cent.

The number of immigrants admitted was 331; the number of immigrants admitted that died was 21, or $6^1/_3$ per cent. mortality among the immigrants, out of a total number of 1908 admitted, or $17^1/_3$ per cent. morbidity.

Here again the percentage of morbidity as computed by Penna. Tuberculosis Society closely approaches their estimate. Total number of all deaths during that fiscal year was 132, and as 21 of these were immigrants, the percentage of immigrant death was 15.9 per cent. of the total number of cases admitted, which again corresponds with the mortality in the report of the Bureau of Health for the City of Phila., 1910, while the percentage of deaths among the native population was 7 per cent., or less than ½ the death-rate of the immigrant.

THE TEACHING OF SOCIAL ETHICS, AND ITS RELATION TO THE CONSERVATION OF THE CHILD.

By WINFIELD S. HALL, Ph.D., M.D., Professor of Physiology, Northwestern University Medical School, Chicago.

The term Social Ethics is a comparatively new one. Its significance is so evident on its face that it hardly needs definition. One assumes that it refers to the right and wrong of social intercourse and that is just what it signifies. While sociology is the science of human society and ethics the science of the right and wrong of human activities, social ethics may be defined as the ground common to ethics and sociology. In short, it deals with the right and wrong of social intercourse in human society.

In order systematically to present this matter, it may be stated that Social Ethics concerns three planes of human activities and relationships: First, the personal plane, which deals with and sets forth personal conditions, personal attitudes and personal habits, which form the basis of and give the trend to the social relations. While the activities in this plane might seem not to be social, as a matter of fact they are basic in their relation to the social and must be considered in this connection. Secondly, the family plane, which deals with and sets forth family relationships in so far as they concern ethics and society. Third, the social plane which deals with the right and wrong of social relationships in human society outside the family.

Social and domestic happiness and well being are so indissolubly linked with ethical standards, ideals and practices that it becomes absolutely essential that all those constructive forces of society pledged to conserve and protect society be marshaled against social wrongs and reinforce social good.

Expressions which have been frequently heard in the last decade as "the social evil," the "venereal peril," etc., indicate the preponderant social wrong from which society suffers and the predominant retribution which nature seems to mete out against this wrong. As a matter of fact, a very large part of ethical wrong living has to do with the sex life, and is usually manifested in all three planes mentioned above, namely, personal, domestic and social. While it is true that the venereal peril menaces the innocent, as well as the vicious, it is also true that if all people would live absolutely clean and correct sex lives for two generations, venereal disease would become as rare as smallpox or cholera, while now it probably affects in smaller or greater degree at least fifty per cent. of the whole population. These millions suffer either innocently or otherwise, for the sins of others or for their own shortcomings, the saddest of all being the results of inherited taint.

If we may rely upon statistics, the social evil is getting worse rather than better. Even the optimist must admit this, and while he sees commercial, industrial and political conditions improving step by step, he is forced to admit that social conditions are getting worse. We do not have to look far for the cause. A glance at the last two government census reports shows that our population is setting toward the great urban manufacturing centers, large regions of our rural districts barely holding their own in population during the last generation, some actually decreasing. If this centering of the people in great cities and rapidly growing towns could have been controlled, the ills and wrongs might have been largely avoided, but they were not controlled, in fact we are only now discovering the unfortunate tendencies which have been at work. People have huddled together in such close proximity that vegetation is huddled out and breathing spaces contracted. Furthermore, in large districts of our larger cities, the housing of the people is shockingly Bohemian. Where a whole family—parents, grown children, adolescents and younger children—is housed in one room, which one room must serve as kitchen, laundry, dining room, parlor and sleeping room, it goes without saying that young people growing up under such conditions lose or rather never experience the sentiments and feelings associated with modesty and refinement.

Young people in our great industrial and commercial centers are crowded together in the department stores, shops and factories under conditions that are not only unsanitary and unhygienic in many cases, but at the same time may be unwholesome from a social standpoint. After their eight- or nine-hour day under these undesirable conditions we can easily understand why the young people would wish to seek entertainment and recreation from their mechanical and unstimulating shop work at the same time that they seek escape from the wretched home conditions. We are therefore not surprised to see them flocking to the cheap vaudeville and moving picture shows, and to the public dance halls, where they are likely to be subjected to destructive suggestion that will tend to rob them of what little of right standards remain after the effects of their home and shop influences have done their work. Summarizing then, we find that the destructive influences of urban conditions in the housing of the people, in the employment of the people, and in their recreative activities are tending more and more to lower social standards. If conditions are not changed social dissolution will surely follow in a few generations.

These unfortunate conditions mentioned above menace the home. Now the home is the foundation of human society. There could be no church; there could be no State; there could be no educational system without the home. If the home—if the foundation of human society—crumbles, the whole superstructure would come down in ruin, and we would have social anarchy.

But this is not to happen. There is a general awakening. We have been analyzing conditions, diagnosing the social disease. We have determined its etiology. Having found its cause, the rational treatment has already been begun.

A study of the social conditions makes it evident that a vast preponderance of social ills are visited upon the people because of ignorance. Little children fall into error because they have not had the benefit of wise counsel and guidance. Young people make blunders because they are ignorant of personal physiology and hygiene. Older people through ignorance or indifference need education and an awakening. The writer believes that the only rational cure for present social conditions is to be found in education. Wise laws justly and firmly administered will help. Public institutions for the reclaiming of the fallen will also help. These two measures last named alleviate in a superficial way only. What we must seek to accomplish is to remove the cause so that these ills will not exist and therefore not need alleviation. In the social evil as well as in the drink evil, it is necessary that the education—the rational prophylaxis of the evil—be begun in youth. It is very much easier to keep a young life straight than it is to make it straight once it has become bent and distorted. Let us then emphasize again the paramount importance of education as the great prophylactic agent to protect society from the ills that follow wrong living.

Inasmuch as the difficulties to which we have referred begin in childhood and youth through innocence and ignorance, it must be evident that the education must begin in youth. Those who have given this problem extended study and thought all agree that education in social ethics is a home problem. Parents must teach their children the great truths of life. Coming from parent to child this teaching will be certain to have its two great essentials, namely, sincerity and sympathy. However, we find that a very small proportion of the present generation of parents possess either the requisite information or the necessary inclination to give this instruction.

There must be a transitional period, during which educators, social workers and all the constructive forces of society work together to produce a generation of parents who will possess both the information and the inclination. That means that we must go into the schools and teach the great truths of life to the children and youth. In this great work for society, let us never lose sight of the fact that we are doing this work in our relation of vicarious parenthood. We must school ourselves to feel toward these young people as a parent feels toward his child. The instruction must be given in all seriousness, candor and simplicity. It must be put on the plane of the ideal. There should be an attitude of sympathy toward the pupil. Those who have not had experience in this teaching can hardly conceive how beautifully the young people respond in their intense attention, and in the seriousness with which they receive the instruction.

The education of the youth in this transitional period should begin in colleges and universities. It may be said in passing that a considerable number of our institutions of higher learning have already made a good start in this teaching. We may look forward with assurance to a time in the near future when all these institutions will recognize their obligation in this direction and will have this instruction given systematically.

Instruction in social ethics and sexual hygiene must also be introduced into the high schools. Most high school pupils are in the earlier period of adolescence. The need for instruction is at no period of life greater than at the threshold of adolescence. The response of the pupil is at no period of life more ready or wholesome. It is, therefore, a matter of the greatest importance that instruction in social ethics and sexual hygiene be introduced into all the high schools of the land at the earliest possible day.

Pupils in the grammar schools need certain facts brought to their attention, and this need is hardly less imperative than is the need in the high school. The girls of the seventh and eighth grade are as a rule coming into adolescence. Probably a large majority of eighth grade girls in general are in their first or second year of puberty. Their mind is filled with questions about life and they instinctively show a sort of hypersensitiveness on sex matters. Their mothers as a rule have not instructed them. The schools must do it.

The problem of the grammar school boy, while less a sex problem than one of inherent barbaric vulgarity, is still one that requires great tact, patience and skill on the part of the teachers. The seventh and eighth grade boy is still in his preadolescent period, still in his period of barbarism. He has not felt the primordial urge in his red blood, but he does show the barbaric tendency to crudeness, rudeness and vulgarity. While we are not going to lose our patience with this boy, nor are we going to become discouraged about him, we are going to extend to him from our elevated position of twentieth century chivalry a sympathetic helping hand that will guide him quickly through his storm and stress period and help him early to step up out of barbarism into his period of dawning chivalry.

This teaching in the grammar school requires incomparably greater tact and pedagogic skill than the teaching in colleges. It must be done by trained teachers; professional people either physicians or social workers called in from the outside cannot do this work for the simple reason that the number of physicians and social workers who possess the pedagogic skill and knowledge of, and sympathy with, child life is wholly inadequate to meet the requirement even if they were to devote their whole time and energy to it. Besides that the psychic effect on the pupils of calling in somebody from the outside is unwholesome and studiously to be avoided. It enshrouds the whole matter in a haze of mysticism and excites the curiosity and a tendency to talk among themselves with great danger of unwholesome results. This teaching of the great truths of life concerning reproduction and sex must be done by the teachers of the grammar school, but the teachers of the grammar school are not prepared either in their own mental attitude, the information they possess, or in their pedagogic training. The whole field of sex is to a vast majority of teachers a *terra incognita.* For a period of four or five years before we require sex instruction in the grammar schools the subject of social ethics, social hygiene and sexual hygiene should be taught in the normal schools..

The normal school course in social ethics should acccomplish three very clearly defined objects: First, to give the pupil teacher a wholesome view-point concerning Social Ethics in all its bearings, displacing false modesty with real modesty and leading the student from the dimly lighted valley of prudish ignorance to the high sun-bathed mountain tops of idealistic virtue. Such a change of mental attitude is wholly and solely a matter of education and is the first thing to accomplish for the pupil teacher. Second, to give the pupil teacher adequate information concerning the biology of reproduction, the physiology and hygiene of the sex apparatus and sex life, also the sociological and ethical principles involved in sex hygiene and social ethics. Third, to train the pupil teacher in the principles of pedagogy of this particular subject. It may be stated in passing that the teaching of no subject requires greater pedagogic skill and tact than this one. In the presentation of no subject does the teacher require a greater knowledge and insight into the psychology of youth than is required in the teaching of sex hygiene.

After all of the normal schools of a State have had a course in sex hygiene and social ethics presented to every student in the school for a period of four or five years it may be wise and the time may be ripe for requiring this teaching in the grammar school, because by that time there will be many hundreds of teachers in the State who will have been trained for this teaching and the probabilities are strong that almost every village and city school will have on its corps of teachers from one to a half dozen who will have had the benefit of this instruction in the normal school and who will be prepared to give this instruction in an acceptable manner.

Answering the question, when and how shall this instruction be given in the ideal case, let us repeat what was stated above that this is a home problem. Fortunately, Nature points the way with a great shining index. Nature has implanted in the heart of every child the instinct of asking questions. The mother and teacher have only to answer these questions when they are asked, answering briefly and simply and always in a spirit of sympathy and love, to rest assured that they are following not only the plan of Nature but also the plan of the God of Nature.

The first question asked by the child is almost certain to concern his origin. The little five-year-old girl creeps into mamma's lap at eventide and nestles her head on mamma's breast and asks, "Mamma, where did you get me?" Then she waits for mamma's answer. No real mother, under such circumstances, could bring herself to the point of telling the stork story to her child. Such a response to such a question would be unworthy the twentieth century mother. You may be interested to know what one twentieth century mother told her child in response to a similar question. Her little six-year-old boy was brought to his mamma's bedside and introduced to his two-day-old baby sister for whom he had watched and prayed for several months. He was very happy, God had answered his prayer; presently he asked: "Mamma where did the baby come from?" This was the mother's answer: "Baby sister came out of mamma's body. She was formed within mamma's body, she was formed from materials drawn out of mamma's blood, and that is the reason why mamma's cheek is so pale and mamma's hand so thin and white." The little boy's eyes opened wide with wonder. This story was to him incomparably more wonderful than the stork story would have been. He looked thoughtfully from mamma's pale face to the little baby sister, back and forth several times. Then he asked this question: "Mamma, was I formed within your body too?" The mother answered: "Yes, my boy, you were. You were formed within mamma's body, you were formed out of mamma's blood, and that is the reason why mamma loves her boy so, because she gave her own life's blood for him." The little boy's eyes now took on a far-away look and he seemed to be trying to grasp the great thought of mother sacrifice. He evidently did catch at least a glimmer of the great truth, because after a few moments his eyes welled full of tears and turning to his mamma he threw his arms about her neck and said: "Oh mamma, mamma, I never loved you so much before," and the little boy meant it too, because from that day forth for many weeks he seemed to think of little else during his waking hours than what he could do to help the mother who had been so ready to sacrifice for him. This happened eleven years ago. The boy of six has grown into the young man of seventeen, stalwart, broad-shouldered, deep-chested, hard-muscled, clear of eye, clean of life, and chivalrous. He must be the pride of his father's heart and the joy of his mother's heart. He is a neighbor of mine, and I have watched his development with great satisfaction. His attitude towards all womankind seems to be inspired by instincts of chivalry and honor. That this attitude has been developed by the teaching which his mother has given him from boyhood up, supplemented perhaps by some instruction and example on the part of his father, no one can doubt. Can there be any question that when the time shall come that all boys and young men will have been led into chivalrous young manhood in a similar way and when all girls and young women shall have received from their parents a training which will give them a reciprocal attitude towards mankind, then the social problem will have been solved? Its solution is a matter of education, pure and simple, and this education must begin in early childhood.

The next question which the child asks as a rule concerns the physical differences between the sexes. Your little six- or seven-year-old girl may come with this question: as to how the mother knows whether her new-born baby is a boy or a girl. This is a fair question and must be answered, otherwise a suspicion of mystery is at once aroused and a gnawing curiosity is developed. The wise mothers in all generations have adopted a very simple method of forestalling this question and presenting in the family conditions which answer the question in the most natural and simple way. I refer to the custom adopted by the wise mothers in all generations of having the little children of the family meet in the nursery at bedtime at least one evening in the week in what some mothers call an "undress parade." Other mothers call it a "bath night frolic." The little boys and girls of the family ranging in age between two and seven or eight years, enter into these frolics with the keenest and most unalloyed pleasure. Never so free of movement, never so happy, and it may be said in passing, never more modest, than when freed from the hampering habiliments with which civilization has clothed us. As recently as four thousand years ago our ancestors were practically nude savages living in the forests of Southeastern Europe and Western Asia. They were children of Nature and like these babies of our twentieth century Aryans so far from being immodest in their nudeness possess what the sociologist recognizes as absolute modesty, that is, modesty so perfect that in the nude they are unconscious of their nakedness.

Incidentally, little six-year-old Margaret is almost certain to note a difference between herself and little Mary, on the one hand, and Jimmie on the other, and will remark in her childlike innocence to her mamma: "Little Jimmie isn't made the same as Mary and I, is he mamma?" And the mamma will answer in a perfectly matter-of-fact tone: "No, little Jimmie is made like all boys and men, while you and Mary are made like all girls and women." This answers the question for all time so far as Margaret is concerned. In their turn each of the other children will ask similar questions or make similar remarks to be answered in the same matter-of-fact way, and to grow up without morbid curiosity regarding structural differences between the sexes. If some of you are worrying about Margaret's modesty let the writer assure you from the uniform experience of hundreds of mothers with whom he has conferred that when Margaret reaches the age when impulses and instincts of modesty usually appear in a girl, they will dawn in the soul of Margaret as naturally as the rose in the garden blooms in June. If a girl grows up in the atmosphere of modesty and consideration, the atmosphere being determined by the mental attitude and the habits of the older people of the family, rest assured that when the child approaches puberty the instincts and feelings of modesty come into their experience as a natural and inherent heritage of our race.

When the children approach puberty, there should be a parting of the ways for the girls and the boys of the family, the girls coming into a closer comradeship with the mother, while the boys are led and inspired by the father. It is the inherent right of every girl to be led into beautiful exultant womanhood by a loving mother, and it is equally the inherent right of the boy to be led into clean, aggressive, triumphant manhood by a fond father.

As the mother sees her daughter growing rapidly in stature at the age of twelve to fourteen, and recognizes that this sudden growth in stature heralds the approach of womanhood, the mother seeks an opportunity to instruct her daughter in the ideals of womanhood, giving her the facts that she needs to know to guide her through the many problems, personal and social, that confront the adolescent. There are three important lessons that the wise mother teaches her daughter.

The first lesson for the girl to learn is the "Secret of womanhood." The mother may picture the typical twelve-year-old girl in all her lean and lank, awkward, and gawky, clumsiness, self-conscious, ungainly and unprepossessing in the highest degree. This preadolescent girl is in her "ugly duckling" stage of development. Now let the mother picture what the girl is to be in four or five short years. Graceful in figure, graceful in every movement of her body, possessed of poise and repose, her rosy cheeks glowing with the red blood of good health, her lustrous eyes luminous with the light of radiant young womanhood. Then the mother reveals to the daughter the secret of this remarkable change and tells her how when the little girl is about thirteen years of age her ovaries begin to prepare a wonderful substance, that was absorbed into the blood and through the blood distributed all over the body where tissues were growing and changing, and that this wonderful substance—this magical stimulus—formed in the body for that purpose causes this remarkable transformation in the little girl's body and no less remarkable a change in her soul, possessed first of purity, that matchless quality that runs like a golden thread through the whole fabric of her life, second, of altruism or unselfishness, that second great quality of the soul of woman, also of other hardly less beautiful qualities that make her soul so beautiful that when once it is really seen one is after that hardly conscious of her body however perfect that may be.

The mother explains to her daughter that this great change that is the first step of developing womanhood is due to a substance formed in her ovaries—formed in her sex apparatus. When the girl knows this great truth, she naturally from that day forth looks upon her sex apparatus as sacred to her womanhood and a few words of counsel from the mother will guard the daughter against permitting or indulging anything that will irritate or excite this part of her body, being assured that such irritation and excitation will disturb the great work which in the plan of the Creator her sex apparatus must do for her womanhood.

The second lesson which a mother teaches her daughter is a simple, clear explanation of the monthly period which is soon to be a part of her daughter's experience. She forestalls fears and forebodings by explaining to the daughter that this experience which may be difficult at first to adjust herself to, is in the plan of the Creator her preparation for future motherhood. As this healthy-minded, perfectly normal, twentieth century girl is looking forward to future motherhood, as a natural and much-to-be-desired experience, her mother's explanation is accepted in the right spirit and the girl looks forward with confidence and serenity toward her approaching estate of womanhood. When it comes, all its experiences are accepted as a matter of course and in a spirit of assurance.

The third lesson which the mother teaches her daughter concerns her relation to her young gentlemen friends. Even though a girl may not formally enter society until she graduates from high school, she is in reality in society as soon as she enters high school. Adolescent high school young people are experiencing the social impulse and yielding to the social instinct. The relations of young people in the high school are in all seriousness social relationships and should be so viewed by all who have any relationship to secondary education. So the girl's mother prepares her early for this new relationship by explaining to her the ideal social relations between young women and young men of her circle. The information that the mother has given her daughter in the first two lessons makes it very evident to this budding woman that her person being sacred to her womanhood she should not permit any familiarities on the part of her young men friends. Parents and teachers, perhaps through the organized agency of a Parent-Teachers Association, will cordially co-operate in the bringing about of ideal social conditions in the high school. All gatherings, whether formal or informal, of high school young people will be chaperoned. This chaperonage should be as wise and tactful as it is constant.

It is the inherent right of every boy, particularly between the ages of ten and fifteen, to have the guidance and the inspiration of his father. During this stage of a boy's development, the pre-adolescent stage, the boy is living over again in his psychic and social development that period of his race when his ancestors were in a barbaric stage of civilization. So the boy of ten to fourteen is in a way a barbarian. He may be cruel and vulgar, he is sure to be blundering and blustering, especially if he is a really, healthy normal boy. His mother and his woman teacher are taxed to the limit of patience with this young barbarian.

It is the time of his life when he needs the firm, kind hand, perhaps the strong arm of a man, to guide, inspire and control him. Boys of this age have the benefit, not only of a father's influence, but also of the influence of a man teacher, perhaps in addition to this the help of boy leaders in Y. M. C. A. or boy scout work. The boy is in his age of hero worship. The robust, the sturdy, the daring, the belligerent experience and exploits of men appeal to him. He quickly scans the gapes of history and picks out as his heroes DAVID the Bear Killer, the Lion Killer, the Giant Killer, the leader of his nation's armies; ALEXANDER THE GREAT (Military Master of the World); CAESAR, Leader of the Legions of Rome; NAPOLEON, dauntless dictator of the destinies of Europe; WASHINGTON, and others of our own National heroes. All of these heroes are fighters. War and the chase are in his blood. Those qualities of his father that appeal to him and lead him to put his father's name on his list of heroes, are not the qualities that appealed and still appeal to his mother to inspire her love and confidence, but they are the qualities of barbaric heroism. Those qualities of physical agility and endurance which helped his father to win athletic victories and break athletic records. They are the qualities that were developed and fostered in war and the chase. So the wise father, the twentieth century father, becomes a chum of his boy not later than his tenth year. He cultivates a real live interest in his boy's activities and aspirations. He attends the track meet between his boy's school and the neighboring schools, acting as referee, umpire or judge on the occasion. He takes half holidays during the summer vacations to join the boys in their ball game in a vacant cow pasture. He goes on short camping trips with his boy and on many a long tramp. In these ways he and his boy become chums, comrades in war and the chase. It makes the boy more mature and thoughtful, more self-reliant and confident, while it rejuvenates and rests the father. Once the boy's confidence and love are inspired, the father sets about systematically to give him three great lessons in life, beginning his instructions where the mother left off.

The first lesson which the father teaches his son is the lesson of manhood and the secret of virility. He describes what it means for a boy to grow into a man and how after a brief period of lank, awkward, self-conscious clumsiness the boy develops masses of muscles on shoulders and chest, upper arms, forearms, back, hips, thighs, legs. When these muscles come under the control of his will as they should in his early teens he will have received from mother Nature the three B's of young manhood, namely, Bone, Brawn, Brain, so that at eighteen years of age the young man should be able to stand out before the world broad-shouldered, deep-chested, erect, supple, hard-muscled, fiery-eyed and resourceful, full of initiative and will power, ready to get into the world's work. Then the father tells him the secret of manhood and explains about the internal secretion that is prepared in the boy's testicles from his fifteenth year on and that this internal secretion absorbed in the blood and distributed throughout the body causes the development in the youth of all these qualities distinctive of virile manhood, deprived of these sex glands the boy would develop first, into a sissy and finally at twenty-five he would be a slope-shouldered, narrow-chested, flabby-muscled, beardless, squeaky-voiced mollycoddle, absolutely lacking in every instinct and attribute of manhood. When the boy hears this from his father he readily understands that his sex apparatus is sacred to his manhood and that he should never do anything to irritate or excite it for fear of disturbing Nature's plan for his development of all these matchless qualities of manhood.

The second lesson which the father teaches his son is a simple, clear explanation of the nocturnal emissions or so-called "wet dreams." The father explains that every two to four weeks a liquid will flow from the boy's sex apparatus. This usually happens when the boy is sound asleep. He suddenly awakens to find that what has happened is a very simple little physiological phenomena that is perfectly natural and simply means a relieving of local tension. All the boy needs to do about it is to forget it and pay no attention to it. However, it is very important that the boy understands about this experience, which will be periodical and may last for many years, otherwise he is likely to worry about it, assuming that he is subject to a sexual weakness. Not only do young men frequently misunderstand this matter, but it is frequently misunderstood and misinterpreted by others. It is just as important for the young man's mother to understand this phenomenon in the sex life of her son as it is for the father to understand about the monthly period of his daughter.

The third lesson which the father teaches his son concerns the social relationships with his girl friends. Helped by a little wise guidance and instruction from his parents the boy readily adapts himself to the impulses of chivalry which are stirring in his breast. While these impulses are of inestimable value in developing the highest social qualities they need guidance. It is the unguided and unschooled social instinct that leads the young man to make an advance toward familiarity in his relation with his girl friends. The impulse to protection when unguided would prompt him to put his arm about his girl friend. The same impulse under guidance inspires in him the attitude and the daring of the chivalrous twentieth century knight doing homage to a lady of the court ready to endanger his life to protect her and ready to fight to the death in defense of her name and honor.

Where parents and teachers co-operate to teach the youth these great lessons of life we insure the conservation, in the child of the race, of those qualities that make for the fullest manhood and womanhood. Physical health is preserved and physical stamina developed. Psychical poise is maintained and the highest ambitions inspired. The youth of the race is conserved through this early and tactful teaching of the great laws of life.

THE RELATIVE PHYSICAL ADVANTAGES OF SCHOOL LUNCHES IN ELEMENTARY AND SECONDARY SCHOOLS.[1]

By Ira S. Wile, M.S., M.D., New York.

The general trend of present human progress is distinctly along the line of the conservation of field and forest, mine and stream, and at last attention is being adequately focused upon the conservation of childhood. With compulsory educational laws existent throughout the States, the responsibility of the States for the safety and protection of childhood has been increased. To compel a child to go to school by law is to assume the responsibility for the care of the child during the period for which the child is within the custody of the educational authorities. Dr. Harrington has stated that "Education must consider the student as the subject of its teaching." To spend all the stress of thought upon curriculum, school buildings, school gardens, music and art, is neglecting the most important phase of the educational problem, namely, the child who is to receive the education. In the broad conception of educational institutions, the curricula and the teachers are far less important than the problems of securing fresh air and good food for the boys and girls during the school age.

Medical inspection as related to the public school system makes note of many symptoms which are apparent among the children, but all too frequently fails to get down to the causative factors responsible for them. Preventive medicine demands a knowledge of causes in order to assure efficient prophylaxis. The intellectual development of children and their physical development are inter-dependent and do not represent isolated phases of child nature. A sound body and a sound mind are closely interrelated and are not mutually exclusive. It is in the interest of the educational system to develop the students in those phases of life to which the home gives inadequate attention. If as a result the school often seems to overlap the functions of the home, it is in the best interests of both the home and the school.

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[1] Read at the Conference on Conservation of School Children, Lehigh University, April 4, 1912.

No one would deny that in any system of education the point of view should be such as to secure the greatest good to the greatest number of children. Taking New York City, for example in the year 1910, there were in the elementary schools 693,246 children while there were in the secondary schools only 50,902, of which number 31 per cent. failed to finish their course. It is striking to note that in the elementary schools only 31,341 children graduated, while in the sixth grade there were 68,514. In the special classes among the elementary school children there were 1484 defective, 432 cripples, 215 tuberculous, and 62 anemic children. It is all well and good to provide adequate attention for those abnormal children and to supply them with food and fresh air, as well as the mental pabulum, but it seems a much more rational procedure to give the same opportunity for the preservation of health to the normal school children instead of placing a premium upon ill-health.

In the entire school system of New York City, only 3.42 per cent. were over 16 years of age, but there were 175,000 children over 12 years of age in the fourth grade and above, 41,000 of them being in the eighth grade. The relation between mentality and good health has been well established. Porter, from St. Louis, has shown that well developed children take a higher rank than less developed children of the same age. The purpose of education is to fit children for life; and the knowledge that they may acquire and the use that they may make of it are equally dependent upon the health of the child during the course of education.

Puberty is a period of general acceleration of growth. There is an increase of height, of weight, of strength; there is a modification of the nervous system with the development of the emotional side of the child's nature, and a susceptibility to impressions such as occurs at no other period of life. In addition to this, puberty forms the period of the development of the sexual characteristics which bring to bear upon educational problem all the variations that may come from the dominance of sexual emotions and the manifestations of sexual development. Physical education must embrace more than a question of muscles; it involves brains, sex life, and general stability. It is not a question as to whether a muscle is hard or soft, or short or long, or thin or broad, but it is a question as to the general physical efficiency of the child, and this involves its mental as well as the ordinarily termed physical attributes. The opportunity to affect the pubertal development of the children is given only during the prepubertal period, and this represents the period of greatest activity of the schools, for the average age at graduation from the elementary schools of New York City is fifteen years.

Superintendent Maxwell in his Twelfth Report states: "Provision should be made in all schools for supplying food at cost price to the pupils in the middle of the day." This, in a way, is an acknowledgment from the head of the school system that there are many children for whom food is not available at home during the very period for which provision is made in the work of the day for them to go home for food. Educators well appreciate the necessity of full stomachs as a prerequisite to securing full minds. Nourishment supplemental to that of the home is now being supplied to cripples, anemics and subnormal children for curative purposes. It is far more wise to extend the institution of making a food supply available to the elementary schools for the purpose of preventing the physical, mental and often moral break-down of the children during the period of elementary school life. Adequate and well selected nourishment is essential to the well-being of children. The effect of food, as well as fresh air, may be readily understood from the experience of the anemic class of Public School 21, New York City, where during 10 weeks the average gain in weight was $3^1/_2$ lbs. In Boston, 18 pupils gained on the average $4^1/_2$ lbs. in three months with supplemental nourishment in a fresh air class while their total absences for a period of three months were reduced from 583 to 39.

In every community there are many poorly fed children whose malnutrition is evidenced in part as anemia, or in enlarged glands or in susceptibility to contagious diseases. For children of this character supplementing the home feeding is exceedingly desirable. There is no intent to suggest that free lunches shall be provided for public school children, as this would merely serve to relieve the family from the responsibility of feeding the children. Available lunches, however, are a boon to the family and a necessity in order to supply adequate food for the many children who cannot secure it at home. The responsibility of the family is not lessened, inasmuch as the available lunch is not given gratuitously, but is sold for a small sum, and the responsibility of the parents is heightened by impressing upon them the necessity of having their children take advantage of the lunch available at the school.

Physical training at the present time takes cognizance of the general development of the children and even goes so far as to give marks for posture, chinning and exercises of various kinds. Motor training, however, is not merely muscular, but has nerve stimuli for whose prompt action good nutrition is essential. It is well known that in the course of training of athletes neuro-muscular planes are developed through superalimentation. Endurance is not independent of food, and the physical training of children of the elementary schools requires for the successful development of the children an abundant, varied and sufficient food supply.

Much attention has lately been given to the question of proper dentition. It is a striking thought that the permanent teeth of children practically are developed during the period of elementary school life. It might well be said proper food means proper teeth. As has been suggested "If children could be sent to a chewing school as they are now sent to a kindergarten there would be a marked improvememt in the race."

Dentition may be delayed or impaired by inadequate nourishment. The lack of lime salts in the daily dietary in the home is a large factor in early decay. The value of tooth brush classes for children whose permanent teeth have not yet erupted arises from the congestion produced in the gums, which adds to the general nourishment of the teeth in process of development. Good teeth depend upon adequate nutrition and certainly adequate nutrition is dependent upon the teeth.

Malnutrition is a large factor in the production of tuberculosis, adenitis, mental defects, anemia, defects in vision, protracted convalescence from disease, and impaired resistance to the infectious diseases. The economic and educational value of nutrition may be appreciated from the fact that children with defective teeth take 8 1/2 years to go through 8 grades of school, while children with enlarged glands require 9.2 years to go through the same grades. It hardly seems necessary to comment upon the rate of illness as it occurs among children in the primary schools and the secondary schools. A large factor in the retardation of children in their progress through the elementary schools is the absences due to ill health, and a large part of this ill health is due to malnutrition of the child.

I recognize the fact that the home environment cannot be wholly remedied as far as sanitation, ventilation, facilities for sleeping and rest are concerned, but supplemental feeding will strengthen the home so as to lessen the dangers from the other unhygienic conditions. The school luncheon may supply foods yielding nutrients deemed necessary for growing children, but which are not contained in the home dietaries. With the careful adjustment of the feeding conditions not alone does physical growth ensue, but mental development must follow. Halleck has epigrammatically stated the problem by remarking that if a child have a skim milk diet, he will have skim milk thoughts.

Physical education must take account of factors that are related to physical development, and if one recognizes the wisdom of feeding the anemic, the tuberculous and the crippled, is it not equally desirable to feed the brothers of these same children to lessen the likelihood of their physical deterioration?

The Principal of one of our large anemic classes has called attention to the great mental improvement of the children in that class, in addition to their physical development. He notes that the children are better able to work in the late morning hours and in the afternoon than when they came to school. Miss Farrell, who has had charge of the un-graded classes, attests the advantages accruing to mental defectives who are returned to their grades after proper feeding. Superintendent Maxwell in his Tenth Report states that 60 per cent. of the defectives suffer from malnutrition. As an economic measure of reducing the number of special classes, it is much cheaper to supply school luncheons than to provide separate buildings and special teachers and in part disorganize the work of the school. Lord Dufferin has remarked that "our mental functions, our memories, our attention, our power of continuous application are even more dependent for vigor and vitality on the general condition of our health than is the play of our muscles." It becomes imperative to supply the foods essential for improving the general vitality of our school children in order that the educational system may be made most effective in giving the education for which they are established.

Underfed children are more vulnerable to disease, more susceptible to protracted colds and bronchitis and tonsilitis; are more likely to suffer from infectious diseases which occasion prolonged absences from the school and frequently lessen the efficiency of the school system. Weak musculature, sluggish circulation, chorea and functional disorders of all kinds are far more common among the underfed than among any other type of children. The recognized underlying factor in chorea is a neurotic constitution, anemia, and some severe disturbance of nutrition. The New York Committee on the Physical Welfare of School Children found 26.2 per cent. of chorea in children suffering from malnutrition as opposed to 3.6 per cent. for the 1400 children studied. This same Committee found that malnutrition occurred to the extent of 10.4 per cent. among 1400 children in October, and 12.9 per cent. in April among 990 children reexamined. This shows the deterioration of children during the course of school year due to inadequate home feeding.

School luncheons in secondary schools really exist as a matter of convenience, and can in no way be regarded as part of the health question. A lunch room is provided for the elect of school children who come from homes better provided with the good things in life, and from families whose standard of living and income is such as to permit the continuance of the children at the school for a longer period of time.

At the present time we hear considerable regarding ventilation in the public schools, and there is a general movement to secure a lower temperature in the school rooms. Among well fed children it is easier to secure the reduction of temperature. It is practically an impossibility to place children in sedentary postures, in open air classes, without supplying a larger amount of food in order to supply the requisite amount of bodily heat that is essential to offset the climatic temperature. No open air classes at present exist without supplemental feeding. School lunches insure better digestion of food and less bolting. There is no hustle, no fear of lateness or running to school with articles of food to be eaten on the way. It is a practical measure for eliminating the unwholesome diets which are all too frequently secured from the pushcarts by those who are unable to receive a lunch at home.

Even the question of flat foot is not always a question of muscle, as much as it is a question of relaxation from under-nourishment. It has been estimated that 40 per cent. of our children in high schools suffer from flat foot, and it is fair to assume that a still larger proportion of this difficulty is to be found among the children of the elementary schools who are 12 times as numerous.

The purpose of the school lunch is not to satisfy acute hunger, but to serve in part to relieve the chronic underfeeding of school children. It is rather difficult to secure figures showing the amount of under-nourishment that there is among children in the elementary schools, but it is fair to take the statistics gathered by various observers. For example, Gershel has studied Jewish children, which figures are germane to New York City, inasmuch as there are over 650,000 Jews in New York City. He shows that the dependent Jewish boys grow 14.86 inches from their 5th to their 15th year, while Bowditch shows that the Boston boys grow during the same period 20.8 inches, while according to Porter, St. Louis boys grow 18.1 inches, and the English Anthropological Committee find 21 inches, the boy's growth during this period of life. At five years of age the average Jewish dependent boy is 1.6 inches shorter than Boas, average; at ten and a half years he is 1.68 inches behind; at eleven and a half years, 3.40 inches; at fourteen and a half years, 5.58 inches; and at fifteen and a half, 7.9 inches behind the average for boys of the same age according to Boas.

Gershel accounts for this by stating that during "the important age of puberty he had undergone many sufferings and privations at an age when freedom and proper nourishment are absolute essentials." The increase of weight is an excellent index of health as a general rule. It has long been known that boys of the favored classes are heavier than boys of the same age coming from the industrial classes. Imperfect nutrition may retard growth and weight in itself is not a full index of good health. Burk has published the study of 68,000 children from Boston, St. Louis and Milwaukee, whose average increase of weight was 5 lbs. a year to the 12th year. At twelve and a half it was 6.2 lbs., while Gershel's Jewish dependents increase 4.87 lbs.; at thirteen and one-half years was 7.9, Gershel's 4.39; at fourteen and a half years 10.4 lbs., Gershel's 4.46; and at fifteen and a half years 12.2 lbs., Gershel's 7.34. The retardation of weight for the dependent boys is especially noticeable from the tenth to the fourteenth year. The general gain in weight that may be brought about by a school lunch has been shown by the experience of the New York Lunch Committee where in three months there was an average gain of $10^1/_2$ oz. for those children adjudged to be suffering from malnutrition who took the school lunch as opposed to $3^2/_5$ oz. for the same period of time among the children also adjudged to be suffering from malnutrition but who failed to take advantage of the lunches at the school. The degree and underweight of the children adjudged to be suffering from malnutrition may be appreciated by the fact that out of 262 children only 44 were at or above the normal weight for their age.

The economic status of high school students according to the U. S. Bureau of Education, shows that only 16 per cent. of the children in the secondary schools come from families with an income below $750 per annum. This was based upon the reports from 1473 schools which investigated the first 25 students in their Freshman classes. The social status in our elementary schools reveals a far different economic standard.

At the present time elementary lunches exist in almost all civilized countries with the exception of the United States. In England, Denmark, Sweden, France, Italy, etc., the school lunches are regarded as educational measures. The educational advantages arise from the general improvement in the physical condition of the children taking the lunches. Of 2051 children examined in two of our New York schools, 283 or 13.3 per cent. were said to be suffering from malnutrition. We found also that 10 per cent. of the mothers of the children worked outside of the home and consequently were not home at noon to offer food to their children. From an analysis of the dietaries used in the home for the children 71 per cent. of the families under observation were regarded as supplying insufficient nourishment for their children; 64 per cent. of the malnutrition cases came from families with an income below $16 a week. The New York Committee on the Welfare of School Children found that 41 per cent. of malnutrition of children arose in the children from families with incomes of less than $16 a week. 75 per cent. of the children taking luncheons came from families with incomes under $16 a week. During 1909 and 1910, 252,254 children were given thorough physical examinations. Malnutrition was found in 8054; chorea in 821; tuberculous nodes in 997; pulmonary diseases in 1964; orthopedic defects in 1728; defective mentality in 691. a total of 14,255. Of defects of the teeth there were 135,186; Taking this proportion of defects found in only one-third of the children of the elementary schools, and applying the same ratio to the entire number of children in the elementary schools there would be 42,765 children in elementary schools with these few physical defects exclusive of the dental disturbances. This represents almost as many children as there were in all the secondary schools of the city.

To promote physical growth and mental development are but two sides of the same problem. To accomplish the greatest good to the greatest number the most stress must be laid on the growth and development of the children during the pre-pubertal period or the years given to life and work in the elementary schools. As a factor in medical education the dietetic side of the child's life demands attention. For this reason an available school lunch is more essential in the elementary schools than in the secondary schools.

230 West 97th Street.

DISCUSSION.

Dr. L. L. Button, Rochester:

The poorly nourished child is not the only one that we in Rochester find can be helped by feeding. That the incorrigible child also behaves much better when fed, is also found to be a fact.

Dr. Baker, West Chester:

I think a question that might come before this body is, what shall be done with the children in the evening when the mother is not in position to reach out with them and give them the entertainment they want? The rich mother is able to do things for the social side of the child. The poor woman feels the same need but cannot supply it. When the child does not find this entertainment in the home, the dance hall, the moving picture shows and conditions that demoralize claim them in the evening.

Dr. Wile, closing:

We have a three cent lunch. This pays all the cost of the food and covers all expense, except the cost of administration and distribution. For the Irish children we have an Irish cook. The Irish will not eat their soup thick, and the Italians will not eat theirs thin. Each nationality forms a study unto itself. We try to use the materials essential for the children's development. We try to give one-third the amount of food that the child should receive in 24 hours. We make the estimate upon the age of a child of ten as the older children are getting foods from other sources. Estimating upon a basis of 1875 to 1900 calories, we give as a minimum amount, 445 calories. We consider first, the palate and second the question of economy. Then comes the question of facility in distribution. We have to use the best Italian oil—no common cottonseed oil for Italian children. For an extra penny the children may get a particular article of food which they wish from the extra foods available. With our Italian children we also use the cheese products. With the Irish children we tried clam chowder, and plain soups leaving in the meat finely chopped. All lunches are paid for either by the children or by some charitable organization caring for the family whose child is at the school where lunches are available. Some of the youngsters receive the lunches in payment for their services during the luncheon period. All the steps of the serving of the lunches are taken by the children.

COURSE IN HYGIENE AND SANITATION IN THE SCHOOL OF MEDICINE OF SYRACUSE, NEW YORK.[1]

By JOHN L. HEFFRON, M.D., Dean.

Previous to 1909, the State of New York permitted medical students to pass the final examination in Hygiene and Sanitation with those of Anatomy, Physiology and Chemistry at the end of the second year of the medical course. About that time, at a conference of the Medical Council with First Assistant Commissioner Downing, I made a protest against permitting the final examination in Hygiene and Sanitation to be held at such a time. The protest was heeded and since then Hygiene has held its normal position in the medical curriculum. In the interval that has elapsed between then and the present academic year, the plans for the course in Hygiene and Sanitation to be outlined were matured and they were put in operation at the beginning of the year.

The Seniors in Syracuse devote the entire forenoon of the year to clinical instruction. The class is divided into three groups and each group into two sections. While both sections of two groups are acting as clinical clerks in Medicine and in Surgery in the two general hospitals, the first section of the third group is acting as clinical clerks in the Women's and Children's Hospital, and the second section is doing practical work in hygiene and sanitation.

We secured the appointment of Professor Meader from our Department of Pathology and Bacteriology as city bacteriologist and put him at the head of the department with three able assistants, also in the municipal service. We obtained the permission from the executive officers of the city for the use by the School of Medicine of the Hospital for Contagious Diseases, the city laboratories and the entire municipal outfit for the control of contagious diseases and for the maintenance of public health. By this plan every student spends one-sixth of the entire year, or over five weeks, in public health work. The time is divided as follows:

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[1] Presented in discussion of reports of committees at the thirty-seventh annual meeting of the American Academy of Medicine, Atlantic City, May 31, 1912.

		Days.
I.	Contagious diseases, City Hospital	6
II.	Laboratory	6
III.	Quarantine and fumigation	6
IV.	Vital statistics	6
V.	Dairy, milk and meat inspection	6
VI.	Water, sewage, street cleaning, garbage and building inspection	3
VII.	School inspection	3

In these various departments the students actually take part in the work which is being done, as for example, in the City Hospital he serves as Interne, in the laboratory he assists in the examination of specimens sent in for diagnosis; under the heading of Quarantine he visits with the medical inspector the reported cases of contagious diseases in their houses, examines the patients and makes a diagnosis. At the termination of quarantine he observes and assists in the process of fumigation. With the various inspectors of food supplies he visits the dairies, the milk laboratories and meat markets and learns the system employed for rating dairies and the various foods. With the medical inspector of schools he makes the inspection of school children.

By this method, as he could by no other, he becomes acquainted with the practical aspects of public health work, learns the importance of carefully recorded vital statistics and comes to appreciate the responsibility which devolves upon health officials.

In the second semester of the year, Professor Meader assembles and systematizes the course in thirty-two lectures.

This course came to the attention of the State Commissioner of Public Health and interested him so much that he gave the first of the didactic lectures, taking for his subject "A New Profession," and he assigned to lecture throughout the course several of the experts from the Health Department of Albany. For example, the Assistant Engineer of the State Board of Health gave a lecture on Garbage Disposal; the Chief Engineer, on Public Water Supplies; the Sanitary Engineer, on Sewage Disposal; the head of the State Laboratory, on the Preparation of Antitoxin and Its Use in Certain Infectious Diseases; the State Smallpox Expert, on Smallpox and Vaccination; and the Assistant Commissioner of Health gave an address on the Organization and Object of the State Department of Health and an exposition of the Health Law in New York State, while several local men, each a specialist in his department, spoke on some of the other important subjects.

At the end of the year the students are very enthusiastic over the course, and the city feels that in the coöperation in the education of those about to go out to practise medicine, it has aided in the preparation for public health work to a degree far greater than that ever done before those who in the near future shall be entrusted with the care of her people.

So far as I know, Syracuse is the only city, save Cincinnati, which has given to the medical college located within her limits such broad privileges.

REPORTS.[1]

I.

REPORT OF THE COMMITTEE TO INVESTIGATE THE TEACHING OF HYGIENE IN PUBLIC SCHOOLS.

By Helen C. Putnam, M.D., Chairman.

The Committee has no written report this year of investigation, but we can give a verbal one of some constructive work resulting from our previous studies. You will remember that two years ago we took the first step by any organization in this country, in regard to qualifying school janitors for their positions, recommending that regular training and examinations be given to make them reasonably efficient. It is wrong for the law to take children out of their homes and put them in the care of ignorant working men knowing nothing of sanitation, or of hygiene, or of methods of cleaning, heating, ventilating school buildings. It is a fundamental cause of the increase of tuberculosis during school years and immediately after, until at the years of marriage and parenthood the death-rate from it is at its maximum. It establishes habits of overheating, bad ventilation and dirtiness for the whole country that talking against such things cannot reform. Immediately following this action of the Academy, the matter was presented in the Department of Science Instruction of the National Education Association, under the title, The Practical Application of Biologic Science in School Administration. The Department appointed a committee to promote efficiency in janitor service. At the last annual meeting of their Department of Superintendence a paper was presented by one superintendent on standardizing janitors' work; at least three cities have formed classes for janitors; one has an institute for them; numerous editorials, lectures and other references to the matter are appearing. So that we may claim again that the Academy in a quiet way has effectively started another good ball rolling.

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[1] Presented to the American Academy of Medicine at Atlantic City, May 31, 1912.

Another bit of constructive work has been brought about through the American Association for Study and Prevention of Infant Mortality in which the Academy has a parental interest. This winter the Association sent to every State Board of Education a petition reading as follows:

> "Inasmuch as our infant mortality rate is unnecessarily high, although in national wealth we easily lead all countries; and
>
> "Inasmuch as this is largely due to lack of education of young men and women for parenthood, homemaking and care of children; and
>
> "Inasmuch as the very great majority of pupils leave school before this instruction can be effectively completed, and rarely have a later opportunity of receiving it, being often deprived of proper education in parental homes by occupations, environment or social conditions; therefore, be it
>
> "*Resolved*, That the American Association for Study and Prevention of Infant Mortality petition each State board of education to urge the appointment of a commission on continuation schools of homemaking, to consist of men and women technically qualified in home economics, sociology, school administration and medicine, to investigate conditions and needs in the State, and to report effective plans for meeting them through such continuation schools or classes."

As conditions are now, we let the adolescents of the country "run wild" officially, and parentally also often. Millions drop out of primary and grammar grades without completing the elementary course, and we have something like 15,000,000 young men and women between 15 and 24 years of age who are not in any educational institution. It is little wonder that we are having so many troubles when education ceases for so many millions in such tender years. The chief idea of the continuation school is to allow young people to earn wages while a part of their time is given to supplementary school work. These are the ages to fit them for self-support, for home-making, and to teach them effectively personal hygiene and sanitation. Probably, before we have finished, a certain minimum of this will be compulsory, and no young person will be allowed to give all his or her time to earning wages until holding a certificate of having fulfilled certain essential requirements in practical education. Several states are looking forward to this already. It cannot be done at once, as it means doubling our pupils in schools, and we have not teachers. There is also the financial problem; and this winter the Page Bill, asking for fourteen million dollars to assist vocational education throughout the country received the support of nearly every one interested in these problems. States wishing to receive funds from this appropriation will be granted them in proportion to what they themselves contribute. The administration of the money will be in the hands of state authorities. When the bill comes up again, or one similar, I hope members of the Academy will be interested to give it their active support.

DISCUSSION.

Dr. Bertha C. Downing, Worcester, Mass.:

I wrote some time ago to the Bureau of Education, Washington, D. C., to see if there was any money which they knew of that might be used for educating children of the whites of our Southern mountains. I was referred to the Page Bill and was told it could be turned to account and to get all my friends and every one whom I could influence to write their Congressman and get this Bill through. So I think it is "up to the Academy" to push that Bill, and save this most "fit" material to help offset the "unfit" we are hearing so much about—hundreds of thousands of children in these mountains with no means of even primary education, their heredity parallel with that of Lincoln.

Dr. W. S. Magill, New York:

What I have to say may be a little jarring upon the preceding remarks, but it is not so intended. I have for the last six or eight years been engaged in public health matters. I have heard much of the necessity of educating the masses. It is my experience, however, that the trouble lies not so much in the ignorance of the laymen in public health matters, but in that of the medical profession. Had we not, therefore, better reverse the order of educating from the bottom up and try as an experiment to educate from the top down? Let the Academy of Medicine make the pronouncement that we want nothing in sanitation, hygiene and public health unless it is done by properly trained and expert persons. Let this Academy refuse to back up any movement that is not carried on by the expert. This brings the jar on the preceding remarks. This Committee, if I remember rightly, was to "investigate the teaching of hygiene in public schools." I think, however, that we were not told of any result of investigation. Obviously this is because there is no teaching of hygiene in the public schools. For this qualified instructors are needed.

Dr. Putnam:

There have been several sections of the investigation already published in the Bulletin, and there are several still to be published. The first was a compilation from legislative reports of the laws on teaching hygiene in schools of each state, and the Federal laws. The next was a study in detail of these laws, with the resulting conclusion published in the Bulletin, the *Journal of the American Medical Association* and the Proceedings of the American Public Health Association, that whoever wishes to improve the work need spend no effort on altering the present laws, but instead should convince school authorities that some other text-book or method will produce better results. The laws are not hindrances, but profer openings—more than profer, they command the work to be done. The third study was in the details of nearly 100 text-books written since the first law was passed (1882), one of the conclusions being that biologists are writing better books than physicians, and that there has been an excellent evolution in this class of books. The fourth study was in the teaching of hygiene through domestic science, showing that while good teachers are doing most admirable work, the demand for them is greater than the supply, and some poorly equipped ones are appointed. The fifth study was of the teaching of hygiene through biologic branches, as school gardens, nature study, botany, zoology, biology, etc. None of this investigating was done by questionnaires; it was all by personal observation. This last study was the first that I have known reporting what schools are doing in teaching the origin of life and responsibility of parenthood. Since its publication the growth of the idea of the possibilities in biologic science for children has been very great.

I agree with the previous speaker that physicians must be better educated. It is very discouraging in our medical meetings to hear them discuss what should be done in teaching hygiene in the schools, when already so much better work than they contemplate is being demonstrated as practicable in many schools—better because chiefly of two facts; it is practice, not mere words, and it trains in intelligently applying definite scientific facts, in other words, they are not practised in merely mechanical method. I think it very doubtful that physicians are proper instructors of children. Certainly they are not as at present educated. With a suitable education they may be of use in the preparation of some kinds of teachers; but there is a possibility of its being wasteful to take the regular medical course necessary for practice if one is to specialize or to be efficient in teaching hygiene and sanitation. Certainly talking cannot take the place of the observation and training given in domestic science and biological work. This is one reason for our pressing the janitors' problem—environment from health habits and ideals much more effectively than health maxims, and our present dusty, overheated, parched, foul air in schoolrooms, with certain other unclean details, are the commonest teachers of the public.

II.

REPORT OF DELEGATE TO THE 8TH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION A. M. A.

By Charles Stuart Sheldon, M.D., Madison, Wis.

Your delegate attended the 8th Annual Conference of the Council on Medical Education of the A. M. A. at Chicago, Feb. 26, 1912.

Besides the members of the two Councils, 190 delegates were present, representing 18 state examining boards, 20 state medical societies, 36 medical colleges, 24 liberal art colleges, 25 state boards of health, 3 departments of the Federal Government Service, 2 confederations of examining boards, 2 college associations, 3 national medical associations, as well as representatives from the R. R. service, local boards of health and local medical societies.

The conference was called to order at 9.15 A.M. by the Chairman, and was continued during the morning and afternoon.

This was the 8th annual conference of the Council on Medical Education. For the past three years, the Council on Health and Public Instruction has held its conference conjointly with that on Medical Education, and for the past two years the Association of Medical Colleges and the two Confederations of State Licensing Boards have held their meetings in Chicago during the same week. By this arrangement the members of the various bodies can attend all these meetings at much less expense of time and money, and a larger attendance is secured for them all. If affords, too, an opportunity for a closer coöperation between these various organizations in arranging their programs, a freer discussion of problems more or less common to each, and a greater unity of effort in working them out in actual practice.

The personnel of the conference was of a remarkably high order, and I have rarely seen a body of men whose appearance impressed me so strongly as to their character and ability. The representation from the South was especially strong and included a large number of very able and attractive men. The first exercise of the morning was the annual address of the Chairman of the Committee, Dr. A. D. Bevan, who took as his subject "The Modern School of Medicine." He regarded the functions of a modern medical school to be, " (*a*) to train up well-qualified practitioners of medicine; (*b*) the development of trained teachers and research men; and (*c*) to add to the existing sum of medical knowledge." To fulfil these functions, the school must have: "(*a*) students with sufficient preliminary education to grasp the complex study of modern medicine; (*b*) properly trained teachers and investigators, and this requires the payment of salaries sufficient to attract and hold the high class men; (*c*) well equipped laboratories; (*d*) hospitals and dispensaries with necessary equipment and material; and (*e*) sufficient endowment to efficiently carry on this laboratory and clinical work."

These propositions were taken up in their order. He first spoke of the function of the medical school in "training up well-qualified practitioners of medicine." His treatment of the subject was to me most disappointing. He assumed a position in direct antagonism to that which the Academy of Medicine has always maintained. I believe, too, that it is widely at variance with the opinions of most who have been trying to raise the standards of medical education in the past.

The greater part of his strictures and criticisms were aimed at high standards, while he said very little about low standards. He seemed to regard studies of a general character, or such as are pursued in a college of liberal arts, either as of no consequence, or as an actual disadvantage to a student of medicine. He says, in effect, that it is a waste of time to pursue anything but purely technical and professional studies after leaving a high school. The whole tone of his discussion of the subject seemed retrogressive—distinctly a step backward. This is rather disheartening to come from the official head of the movement in the A. M. A. in the 8th Annual Conference of the Council, and after the progress we have already made. The arguments he advances in support of his position are, first, and mainly, the more advanced age in commencing the practice of medicine which the thorough preliminary course involves; second, the lessened efficiency and adaptability of the older men; third, the fact that low-grade colleges are securing a large number of students. He says: "In the U. S., unfortunately, the effort has been made by some universities to sandwich in between the high school and the medical course the anomalous college course of 4 years, and the result is that the men graduating from such medical schools, with their added year as an interne in a hospital, are actually averaging 28 or 29 years of age. This is nothing short of a crime committed under the impression or pretext, that it is in the interests of higher education. Evidently, in the efforts to increase preliminary requirements in this country, some of our universities have lost sight of the fundamental fact that the first and most important function of the medical department of the university is to prepare properly qualified practitioners of medicine. This preparation must be completed and the individual made self-supporting within a reasonable time." As to efficiency, he says: "And then, too, from the standpoint of efficiency, it is undesirable. My own personal experience has been that a hospital interne at 25 is much more receptive and plastic and efficient than one at 30. Universities which are demanding a college requirement for entrance under the belief that they are advancing the interests of medical education, are clearly making a mistake, and are not doing a *service* when they compel young men to adopt a course which means a loss of from two to four years. The amount of physics, biology and chemistry required in the American medical school having the most *rigid requirements*, could easily be acquired in one year of work." After stating that two years of preliminary work should only be adopted with the understanding that an attempt would be made to reduce the average age of the student entering college to 18 or even less, he says: "On the other hand, the plan adopted by Germany and England of sending the student direct from the secondary schools to the medical department of the university has many distinct advantages, and must be recognized as a scheme which offers a thorough medical education, and which should receive the sanction of medical educators and the medical profession. Universities or independent medical schools which adopt the German plan (he evidently calls sending students from our heterogeneous array of high schools direct to the medical school, the German plan) will place themselves on a thoroughly sound basis." This is sufficiently disheartening, but he says farther: "It has been shown to be true that the students entering the medical school with two years of university training in physics, chemistry and biology, are better prepared to begin the study of medicine than the men entering with a college degree without that special training. Would not the student with one year of thorough work in these sciences be as well prepared to pursue his medical studies?" If *one* year is as good, or better, than two years, would not this *reductio ad absurdum* argument prove that no year at all might be still better?

We are willing to admit that the time element is worthy of consideration, but it is of minor importance. We have all learned, long ago, that these short cuts to a sound medical, or any other kind of an education, are disastrous, and we should set our faces as steel against them. In the discussion of the second division of his subject, "The Development of Trained Teachers," he emphasizes the necessity of larger salaries for the teachers in the laboratory branches, and is of the opinion that only men with a medical degree and medical training should be employed.

In the clinical years he deprecates the plan of putting the clinical teachers on a university basis with a fixed salary, but would fill these chairs with active practitioners, the leaders in the various specialties, and that a reasonable liberty to do private clinical work should not only be allowed, but recognized as desirable.

In the third division of his subject, "The Teaching Plant," he "thinks there should be at least four laboratories, or, better still, four separate buildings; one for anatomy, including embryology and histology; one for physiology, including physiological chemistry; one for pathology, including bacteriology; and one for pharmacology, for which, at a moderate estimate, $40,000 yearly would be necessary.

For a teaching hospital, he thinks it undesirable that the universities should build and maintain its own plant, but rather, that there should be secured an affiliation between our great charity hospitals and the medical schools.

Dr. Colwell, the Secretary, gave an account of the present status of medical education in the U. S. He based it on the third tour of medical inspection by the Council now approaching completion. He stated that 10 medical colleges have ceased to exist since the last conference, and one new school organized, a net reduction of 9, the total number of schools now being 120. He reported that last year over $14,000,000 were given for medical education and hospitals.

As to preliminary education, six more colleges require a year or more of physics, chemistry and biology, making a total of 47. Thirty of these medical schools require for entrance two or more years of work in a college of liberal arts. Nine state examining boards have adopted preliminary requirements in advance of a high school course. Of the 73 medical schools not requiring any college work for admission, only 28 are adhering to the four-year high school course, while 45 have such loose requirements for admission as to be practically free to all comers. Naturally they have increased their enrollment by admitting those refused admission elsewhere. Of the 79 medical schools which claim a connection with universities or colleges, only 55 secure any direct benefit, financially or educationally, from such connection.

Of these, 44 are now requiring one or more years of collegiate work, but since 11 of these continue to exercise full control of the admission of students, only 33 have a reasonably close and sympathetic connection with universities. The report shows progress, but a vast amount of work is still awaiting us.

Dr. Frederick G. Hallett, of London, Secretary of the Conjoint Examining Board of the Royal Colleges of Physicians and Surgeons, then presented a detailed account of the organization and the system of examinations of the Board. It was a revelation as showing what method and system and infinite patience can accomplish in successfully solving the very difficult problems connected with these examinations. It must have been the despair of those examiners who are beginning to make clinical examinations of the candidates. The other paper of the morning was a very practical address on "Some Administrative Phases of Entrance Requirements," by Prof. K. D. Swartzel, of Ohio.

The first paper of the afternoon was by Dr. Reuben Peterson, of Ann Arbor, in which he strongly advocated a fifth clinical year of training in a hospital as an interne.

Dean Holland, of Jefferson Medical College, gave an address on "The Advantages of Having the Preliminary Year in Physics, Chemistry and Biology given by the Medical School," and Chancelor Kirkland, of Vanderbilt University, gave a symposium on "Medical Education in the South." These papers are worthy of more extended notice if time permitted. Chancelor Kirkland gave a very optimistic picture of the present conditions of medical education in the South and assured us that we need have no fears as to their progress in the future.

As these conferences are held year after year, their great practical usefulness is more and more apparent. The bringing together, annually, of such a body of men, to discuss the subjects inter-related to the work of all, would alone make the conference worth while. Each conference is another milestone which marks the progress of medical education, and while we have gone quite a long way on our journey, the end is not yet in sight.

III.

REPORT OF THE DELEGATE TO THE MEETING OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

By WM. L. ESTES, M.D., South Bethlehem.

This meeting was the third in a series of meetings having to do with medical education.

The meeting of the Council on Medical Education occurred first, that of the Council on Medical Legislation was second, and lastly came the Association of American Medical Colleges.

It is significant that of 120 medical colleges in the United States, there were at the time of meeting 48 members of the Association, and only 24 affiliated colleges represented at the meeting.

If this Association is to carry out its supposed purpose of recommending and regulating the requirements for graduation in medicine, and standardizing the grade and requirements of American medical colleges, it would seem necessary in order to effect these purposes to have the majority of the recognized colleges as members.

A study of the membership shows the absence of many of the best known and best equipped medical colleges in the country. Besides the same character of work and investigation is carried on by the Council on Medical Education.

Taking all these things into consideration, the question arises what is the good of the Association and what useful purpose does it accomplish which is not better done by the Council on Medical Education?

The reporter confesses that it seems to him this Association has no longer any proper reason for its continued existence.

It is evident that its membership is so small as compared with the total number of medical colleges and such a large number of representative medical colleges refuse to join the association, that its Council and suggestions will properly have very little weight of themselves in shaping medical education, or of elevating the standard of instruction.

The way to accomplish the avowed purposes of this Association is by publicity given to the reports of careful and trained investigation of the equipment, courses and teaching in the medical colleges, and through state legislation. This work is being done efficiently by the Council on Medical Education of the American Medical Association, which has the support and backing of the National Medical Association.

This gives prestige and weight to the conclusions and recommendations of the Council on Medical Education, while those of the Association of Medical Colleges have very little indeed.

The existence of this latter association, as was said a little while ago, seems unnecessary and its work supererogatory. Indeed, this year's President of the Association of Medical Colleges, Dr. Wm. P. Karlow, of Colorado, in his presidential address, advised the establishment of a unification of the Council on Medical Education, the Association of Medical Colleges and the Federation of State Medical Boards. When this is done and the collective energy of the profession is exerted through one large association which has weight and the respect of the whole country, we may expect something like proper results to follow the recommendation for increased preliminary educational requirements, better equipped medical colleges and medical course modeled on approved pedagogical lines.

DISCUSSION.

Dr. John L. Heffron, Syracuse, N. Y.:

I am rather surprised at the report given by Dr. Estes. In the beginning of the Association of American Medical Colleges Syracuse was a member. After it was seen by our delegate that the efforts were rather to pull down than to build up we resigned our membership. Three years ago we went back, at the Baltimore meeting, because an entirely different spirit prevails. The requirement for membership in the Association is now such that it is impossible for one hundred and twenty medical colleges to be members. Not more than six colleges of New York State could be members if they wanted to. Formerly, large Eastern colleges were not members. Now Harvard, Johns Hopkins, Yale, Columbia, Bellevue, Buffalo, Albany, Syracuse, Western Reserve, Minnesota, Wisconsin, are all represented as members of the Association. The tone of the meetings to me—and I have been a delegate in the earlier years and now—is altogether different. They have adopted a qualification for entrance to medical schools which demands that no student shall enter the study of medicine who is conditioned in any subject of a four years high school course. This is a great advance. I am fully in accord with the efforts that are being made by the Council on Medical Education of the American Medical Association. But the association of the best medical schools for the discussion of such questions of curriculum and medical pedagogics as made up a large part of the program at Chicago is most desirable, and such an association has a place of its own and should be encouraged to keep it and fill it.

Dr. Edward Jackson, Denver:

I agree with the speaker as to the number of colleges that are eligible to membership in the Association. That has been a very potent reason for the smallness of the Association. Practically all of the Southern medical colleges have stayed out; they could not come up to the standard. At the meeting at Chicago more than one speaker expressed strongly the hope, and the prospect, that in a very few years the Southern medical colleges could conform to the standard. It was stated that the development of the general educational system in the South was dependent upon the high schools; and that these were now entering upon a course which would send up well-prepared graduates, permitting the medical colleges to adopt the standard of the Association of American Medical Colleges.

My understanding of the suggestion of Dr. Bevan was a little different from that of Dr. Sheldon. His argument was that an important practical step for the Council on Medical Education to take at once was to enforce clinical instruction; to have the clinical fifth year, rather than to increase the requirements before admission to the medical college. Also that as we insisted upon one or two years in college work before admission to the medical course, we should also insist upon increased efficiency in the system of general education, which would give us medical students at an earlier age, that they should have one or two years of college work, the entire course if possible, without paying too great a price of increased age at the time of graduation. The point of increased age of the young man or woman, before taking up seriously a life work, or before getting down to close quarters with it, is a large subject.

The point that struck me with reference to these meetings was whether or not the Association could enforce its requirements upon all or a large proportion of the colleges of the country. The work that was being done in the papers and discussions before that meeting of the Association was well worth the continuance of the organization. The paper and discussion on examinations in the medical schools were extremely interesting; and taken in connection with an account of the English methods of examination, were valuable. Those of us engaged in medical teaching realize more and more how much examinations complicate the normal instruction and study of medical students. The questions asked me more frequently last winter than any other were: "Will we have to go back over this when we come up to our final examinations?" "Are we expected to answer questions on this part of the subject we have been over?" If methods of teaching and methods of examination can be intelligently discussed, as they were at that meeting of the Association of American Medical Colleges, such discussion is more important than the adoption of a formal schedule of requirements, even if that schedule could be enforced upon all the medical colleges of the country.

NOTES AND NOTICES.

The New York Association for Improving the Condition of the Poor has recently received the largest single gift that has ever been made to the Association and probably the largest ever given to any association already establisht. Mrs. Elizabeth Milbank Anderson has given it $650,000 for social welfare laboratories; that is, this endowment is not to be used for the purpose of giving alms but for scientific study whereby it is hoped to develop more effective methods for the Association to accomplish the purposes indicated by its name.

Mrs. Anderson, in a letter offering this gift, writes:

> I fully appreciate the necessity for ministering to the physical needs of the sick, disabled and unfortunate, but in undertaking the work outlined in this letter I wish to make it clear that the proposed Department of Social Welfare is to concern itself, in so far as it employs funds supplied by me, with a social program based upon preventive and constructive measures.
>
> Generally speaking, therefore, this program should include those activities which are calculated to prevent sickness and thus diminish poverty, such, for example, as the promotion of cleanliness and sanitation and aid in securing a proper food supply. In this connection your Association will doubtless find it advisable, in some cases, to coöperate with public authorities and with existing agencies having similar objects in view where such agencies are practising approved methods in fulfilling their purpose, while in other cases it may probably be necessary to establish the work as a new enterprise, and in still other cases it will perhaps be prudent to devote some time and money to investigation and research before assurances can be given that any proposed measure will accomplish the object sought to be attained.
>
> With the funds at your disposal I would expect you to create the proposed Department of Social Welfare and to distribute the enterprises to be conducted under its supervision among at least three sub-departments or committees, one dealing with matters pertaining to the Welfare of School Children, and one with matters pertaining to Food Supply.

The Association is to be congratulated upon this endowment which will enable it to be of use not only to the poor of New York but to the poor everywhere.

* * *

How the pendulum swings to and fro in the progress of human events. When the word now so glibly used by all as charity was first given the concept underlying its use, it implied acts of brotherly kindness from those who had to those who had not. "Silver and gold have I none," said one of the earlier users of this word, "but such as I have give I unto thee," and he put forth a helping hand to raise the weak brother to his feet. It was the feeling of sympathy for those in need and the desire to relieve them from their necessities that was the early motive in such deeds. Then gradually the feeling deteriorated and the gift was thought more of than the motive for the giving; and charity became a dole and a fling.

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The 19th century saw the beginning of better things. The helping hand is again sought, only now, in harmony with the spirit of the age, the needy ones were submitted to scrutiny and investigation and "laboratory processes," until we have gone almost to the other extreme and science has taken the place of sympathy. An applicant for relief becomes a case, is tabulated and classified, and the interest frequently ceases when the case shows personal peculiarities and evidences of humanity. In this lies the danger in the modern treatment of our social questions. Fortunately, the danger is recognized and the pendulum is getting to the end of its movement, soon to swing back again, producing a happy medium where sympathetic investigation, actively carried on, will develop brotherly affection originally contemplated in giving a new sense to ἀγάπη.

This does not mean the "laboratory processes" in studying social conditions should cease; rather they should be increased, but always with the careful conserving of the human element. If the personal is permitted to be lost in the purely scientific, it resembles the work of the earlier botanist and his *hortus siccus*, while the true methods resemble the procedure of the modern biologist at once a study of living things and not of merely a specimen.

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In this connection, the following paragraph from a first page article in the *British Weekly*, for February 20, 1913, is *apropos*:

People in these days all profess to be democratic. Now the principle of democracy has been summed up in two propositions: it means, first, that the things common to all men are far more important than the things peculiar to any man; and it means, secondly, that the most vitally important things must be entrusted to ordinary men themselves. Such things, for instance, as the mating of the sexes and the rearing of children, and the choosing of laws and rulers for the State. Thus democracy represents a perpetual revolt against the tyranny of autocrats and also against the arrogance of experts. To-day the autocrat disguises himself in the uniform of a Government official. But the expert goes about naked and unashamed, pouring out dogmatic wisdom until common people not only detest him but discredit his rules and methods. This resentment may be quite unjust and irrational, but it is a fact to reckon with. Here lies one secret of the appeal which Henri Bergson is making to so many minds. He attracts them by his protest against the over-intellectualization of human affairs. He affirms the validity and worth of feelings and instincts and intuitional methods of arriving at conclusions. He seems to rehabilitate what our grandmothers used to call "common sense," not because it was plentiful, but because it stood for the collective sagacity of mankind. And there is a truth of the whole man which is profounder than the truth of his reason. Bergson certainly supplies one telling argument in defense of democracy; he reminds us that when all is said, the final justification for life is to be alive.

⁂

There ought to be a study for improving the condition of the medical profession. One need not climb into watch towers to see the changes taking place in society and the relation of the medical profession to society. The recent adoption of the Insurance Act in England with the demands made upon the profession show this. Questions arising out of contract practice, dispensary abuse, and all the rest, are straws showing the direction of the wind. It is too much to expect one person of wealth to endow a fund for this purpose but it is entirely possible for a combination of smaller sums to secure an endowment which will enable proper "laboratory processes" to be employed in the study of these questions. Now that the Academy is incorporated, enabling it to hold trust funds, the machinery is at hand to carry into effect such investigations provided the power be given by an endowment.

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The Academy Circular recently mailed to the Fellows called attention to the change made in the Headquarters hotel at Minneapolis. The Leamington was found to be able to furnish a place for the Academy's Sessions, and the change was made for our convenience. Make your reservations early.

* * *

This same circular also suggested the plan adopted by the *Survey* to increase the income for publishing. The wealth of material presented at the last meetings and promised for the next has necessitated the enlargement of the Bulletin so that the expenditures are exceeding the income. Already several have sent their checks for ten dollars for coöperative subscriptions; may many more be moved to do likewise!

* * *

An English-speaking Conference on the Prevention of Infant Mortality will be held in Caxton Hall, Westminster, London, on Monday morning, Monday afternoon and Tuesday morning, August 4th and 5th. The meetings will be held under the auspices of the (British) National Association for the Prevention of Infant Mortality and the Welfare of Infancy under the Patronage of the King and Queen, and will convene immediately preceding the opening of the International Medical Congress.

A tentative program has been issued by the Committee which indicates that the papers will consist largely of medical opinion. The subjects treated will be:

The responsibility of central and local authorities in infant and child hygiene.
The administrative control of the milk supply.
The necessity for special education in infant hygiene.
Medical problems in infant nutrition.
Ante-natal hygiene.

The President of the Conference will be the Hon. John Burns, M.P., President for the Local Government Board. The chairman of the English Executive Committee is Sir Thomas Barlow, and the Secretary, Miss J. Halford, 4 Tavistock Square, London, W. C.

The American Committee, in charge of the part to be taken by the United States and Canada, will furnish information to those desiring to attend the conference:

Dr. Henry L. Coit, Chairman, 277 Mt. Prospect Avenue, Newark, N. J.

Dr. Philip Van Ingen, Secretary, 125 East 71st Street, New York City.

* * *

One of the earlier official acts of Governor Sulzer, of New York, was to appoint a commission to collect facts, receive suggestions and make recommendations as to changes in the public health laws and their administration. This Commission consisted of Dr. Herman M. Biggs, Mr. Homer Folks, Mr. John A. Kingsbury, Dr. E. R. Baldwin, Dr. W. E. Milbank, Miss Mary Adelaide Nutting, Dr. John C. Otis and Mr. Ansley Wilcox. With commendable zeal and American push the Commission held ten public meetings, records of which comprise 836 typewritten pages, communicated by mail with 1033 health officers of towns and villages, received information from the health officers of 48 municipalities of the state, and made a survey of two counties as samples of the working of the local health authorities throughout the state, and submitted a report to the Governor by the 15th of February. Of course, a report prepared in such haste would be of little value, were it not for the fact that the members of the Commission were already well informed of the condition and of the needs to benefit them. The resulting report is admirable in every detail and makes suggestions which it is hoped the Legislature of New York will see fit to enact into law. The conciseness of the report and the wealth of suggestions makes it impossible to abstract it in the space at hand.

ACADEMY PERSONALS.

Bulkley, L. Duncan, gives a series of clinical lectures and demonstrations at the New York Skin and Cancer Hospital, at 4.15 P. M., on Wednesday, from April 2d to May 7th, inclusive.

Sheldon, Charles Stuart, with Mrs. Sheldon, sailed for Europe on March 15th, on the "*Caronia*."

Sheldon, Stewart Harris, was married to Miss Marion L. Smith, of St. Paul, Feb. 26, 1913.

NECROLOGY.

1912.	
Dec. 6.	Charles E. Cummings.
Dec. 25.	Amos M. Jackson.
1913.	
Mar. 14.	R. G. Curtin.
Mar. 17.	Prince A. Morrow.

LITERATURE NOTES.

REVIEWS.

Cancer. The Problem of Its Genesis and Treatment. By F. W. Forbes Ross, M.D., Edin., F.R.C.S., Eng., D.P.H., Lond., Late Civil Surgeon, His Majesty's Guards' Hospital, London. London: Methuen & Co., Ltd., pp. 261. Price, 5 shillings, net.

The author himself speaks of this book as having been "compiled." It evidently is made up chiefly of papers and monographs published at various times in several journals.

It is an attempt to induce the medical profession to believe that cancer of epihypoblastic origin is produced by a lack of potassium salts in the blood and tissues, and that the administration of neutral salts of potassium in large doses will markedly improve, if not cure, cancers even in advanced inoperable stages.

The arguments used by Dr. Ross are chiefly deductive. They are founded on histologic and pathologic observations conducted the last fifteen years, but they are supported by very few instances of actual use and results.

He found the potassium of the cells chiefly in the nuclei. When a man or animal is in good health the potassium content of his blood is normal and his cells, except the red blood corpuscles, are properly nucleated and properly "polarized;" in ill health, especially in gout and carcinomatous conditions, the cell nuclei are not well formed, the cells are hetero-polarized, the red blood cells are markedly diminished and begin to be nucleated and there is great deficiency of potassium. The red cells form nuclei in order to conserve and retain the diminishing potassium. If large doses of potassium be administered in these conditions not only will the color reappear in the blood, but the pigment of the skin and hair will be restored, well-being will return to the patient, and the malignant character of the carcinoma be changed into benignancy.

This is the summarization of the statements and observations. The deduction is—use large doses of potassium in carcinomata.

Local electrical perfusion of potassium salts when possible is also recommended. Four notable cases of remarkable restoration to almost complete health and disappearance of the tumors are related. Dr. Ross intimates that many other cases are under observation and will be published later.

This little brochure of Dr. Forbes Ross is an interesting and suggestive collection of papers and statements. One must wish, however, that he had waited a little longer and had collected a list of cases which would be long enough, more adequately to illustrate the remarkable effect which he claims for potassium.

The book gives evidence of hasty preparation. There are many repetitions which might be avoided by even superficial editing, and which would lessen the labor of reading the book and greatly improve the substance of the text.

The publisher has done his part remarkably well. He has made an attractive volume. The paper is good and the type delightfully clear and distinct.

The book is well worth reading for its suggestions concerning metabolism and for calling attention to the value of potassium in anabolic changes. W. L. ESTES.

SCHOOL JANITORS, MOTHERS AND HEALTH. By HELEN C. PUTNAM, A.B., M.D., of the Committee of the American Academy of Medicine on the Teaching of Hygiene. Easton, Pa.: The American Academy of Medicine Press. Cloth, 200 pp. Price, $1.00, postpaid.

The aim of this little volume is best set forth in the author's own words: "A constructive appeal to organization of mothers, the housekeepers, to fulfill their responsibility for children's well-being outside of the walls of the family residence as well as inside." The book well fulfills its mission. There are many hygienic defects in the management of schools as everyone knows who has studied the matter and all of these are plainly enumerated and explained, and what is more, the responsibility for their existence placed fearlessly where it belongs.

But the author does not stop at the mere pointing out of these defects but gives excellent and timely suggestions for their remedy. In fact there is so much to commend and so little to condemn that it would be almost sufficient to stop here. Yet there are certain things which should be particularly emphasized. The book is not only a "constructive appeal" but is an appeal to "constructive co-operation," and throughout, the idea as stated in the "key word" that "school" is a part of life and not "preparation only" is repeatedly impressed on the reader.

Almost every essential detail of school hygiene is dealt with in a manner which cannot fail to make its impression, but perhaps the strongest point made in the whole book is the prevalence of untrained janitors who, as a rule, are appointed through political influence rather than for their fitness, and makes the very timely suggestion that not only should janitors be made to study hygiene, the better to fit them for their important duties, but further, that they should not be appointed until they have fitted themselves. This suggestion could well go further and include principals and teachers who could then know when the janitors really do their duty. The appeal to mothers is strong and points them to their duty in seeing that school-houses are kept as wholesome as the best homes. This is entirely correct, but to one who has seen the school *and* the home as a physician in general practice does, the question naturally arises: "Do not the majority of children come from homes which are kept far less sanitary than the best schools?" I think they do, and before many mothers are in a position to suggest improvements in school conditions they should learn and practise hygiene of the home.

Attention is well drawn to the fact that so-called disinfectants are merely deodorants, and that if odors are present it should be known and correction made of the cause and not merely to substitute one odor for another.

School fatigue is dealt with frankly and carefully and the causes as there mentioned should receive most careful consideration from teachers and school authorities.

The book suffers much from its arrangement, being a series of papers, and is consequently disjointed, resulting in frequent, unnecessary repetitions with an inevitable loss of force. A rearrangement in continuity and compactness—to about two-thirds its present size—would add much to its readableness. On the whole, however, the author shows a marked familiarity with her subject and leaves no doubt in the mind of the reader as to her meaning. The book can well be recommended to all interested in the welfare of school children and should have a place in every school and public library.

LAWRENCE T. ROYSTER.

NOTICES.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY. Transactions of the Third Annual Meeting, Cleveland, Ohio, October 2–5, 1912. Publisht by the Association, Baltimore, 1913. Paper. 383 pp. Price, $3.00; postage, 12 cents.

If anyone thinks that the prevention of infant mortality is a limited subject for investigation and study and, as a consequence, this Association has a very narrow field of research, let them undeceive themselves by sending to the office of the Association at the Medical and Chirurgical Faculty Building at Baltimore and secure a copy of this volume.

During the three days of the meeting there were three popular sessions and six section meetings, all of them full to the brim with interesting papers and overlapping each other very slightly. In the address of the President, Dr. Cressy L. Wilbur, the Chief Statistician of the Bureau of the Census, were presented some of the subjects that seemed to him to be of importance. Naturally, he should place in the first rank the securing of accurate vital statistics throughout the country. This need will be recognized even by those who are not fond of statistics, for without an instrument of precision with which to measure, no definite idea can be obtained of the value of any suggested method for preventing the death of infants. It is to be hoped in these days of conservation, at least accurate birth and mortality registration will be secured for the entire country and that there will be few like the Ohio judge who declared the birth registration act unconstitutional because, forsooth, it required the professional attendant to ask certain non-professional questions.

Dr. Wilbur's second point regards the feeding of babies. First, the great desirability of mothers nursing their babies and the careful protection of the cows' milk supplied for those babies who are forced to be bottle-fed. His third requirement may be summarized as the better preparation of the caretakers of young infants so that the first weeks and months of life may not be submitted to the peril of the ignorant as is now so frequently the case.

Dr. L. Emmet Holt, the incoming president, took as the subject of his address, The Importance of Hospitals for Infants and Their Part in the Prevention of Infant Mortality. Then there were papers on Eugenics, The Influence of Health Departments in the Prevention of Infant Mortality, Continuation Schools, so that young people beyond the school age may be trained in home-making, Improved Housing and its Effect upon the Death of Children, and some other interesting papers upon day nurseries and other institutions of a similar kind and the work they are doing in the education of mothers to take the better care of their babes.

This is but a brief survey of the papers presented, there being about forty presented in all. It is hoped, brief as it is, it will give an idea of the extent and value of the activities of this Association.

LOVE AND LETTERS. By FREDERIC ROWLAND MARVIN. Boston: Sherman, French & Co. 1911. pp. 252. Price, $1.50, net.

This volume takes its name from the initial essay and is a series of pleasant rambles thru delightful by-paths under the guidance of one familiar with every turn of the road, and who charms every step by his description of the scene.

All ages and all literature are made to pay tribute to the theme in a natural manner, free from pedantry. We are led step by step until at the end only is the feeling of refreshment from the pleasant jaunt over hill and dale for the purpose merely of viewing the beauties as one passes.

THE EVIL EYE, THANATOLOGY, AND OTHER ESSAYS. By ROSWELL PARK, M.D., LL.D. (Yale). Boston: Richard G. Baxter, the Gorham Press. pp. 380. Price, $1.50; by mail, $1.65.

Dr. Park should receive the thanks of his friends and scholars generally for thus collecting into a single volume these hitherto scattered papers. Many of them are studies on the borders of that *terra incognita* where anthropology, philology, and folk-lore afford faint trails for the explorer. Every page gives evidence of wide reading and more than usual research into recondite subjects. It is written in a style that is attractive and lucid. Dr. Park keeps himself well in hand and seldom permits hypothesis to replace deduction. It is a book that will commend itself to every thoughtful reader who desires to acquaint himself with the development of the human race.

PROCEEDINGS OF THE NATIONAL CONFERENCE OF CHARITIES AND CORRECTION, at the Thirty-ninth Annual Session held in Cleveland, Ohio, June 12–19, 1912.

This volume is one of the most valuable ever issued by the Conference and is full of useful information from cover to cover. It presents the papers and discussions under the following divisions: Children, Public Supervision and Administration, Families and Neighborhoods, Housing and Recreation, Courts and Prisons, Immigration, Sex Hygiene, Relation of Medical and Social Work, Standard of Living and Labor, Infirmary Management, besides two or three "Joint Section Meetings" where several topics were under discussion. Everyone interested in any one of these divisions will do well to consult the volume as they will find much of interest and value in so doing.

PROCEEDINGS OF THE SIXTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE INSURANCE PRESIDENTS, held in the Hotel Astor, New York, N. Y., December 5 and 6, 1912.

Three general topics were presented for discussion: "Problem of Conserving Life Insurance Funds," "Prolonging Lives of Policy Holders," and "Fitting the Policy to the Policy Holder." The papers presented under the second topic are: "The Effect of Safe Water Supplies on the Typhoid Fever Rate," by Dr.

Allan J. McLaughlan, United States Public Health Service, Washington, D. C., and "The Influence of Vital Statistics on Longevity," by Dr. Watson S. Rankin, Secretary, North Carolina Board of Health, Raleigh, N. C.

CHLORIDE OF LIME IN SANITATION. By ALBERT H. HOOKER, Technical Director, Hooker Electrochemical Company. New York: John Wiley & Sons. pp. 231. No price given.

The author of this monograf has done well to include in it much that is of an elementary character so as to cause the book to contain, in itself, all the information regarding the subject under discussion. Hence, the introductory chapter treats of chloride of lime itself and the history of its development as a product in the arts. Then is treated of the use of chloride of lime for water purification, sewage disinfection, street sprinkling and general sanitation. These introductory chapters occupy 77 pages in the book. The rest of the book is devoted to a series of abstracts and references which make it of special value in enabling one conveniently to refer to the original source of the article noted in addition to the abstract itself. With the exception of a complete index these abstracts occupy the rest of the report. The index is sub-divided into a subject index and a name index which make the material of the book easy of access.

MUSCLE TRAINING IN THE TREATMENT OF INFANTILE PARALYSIS. By WILHELMINE G. WRIGHT. pp. 32. Price, 25 cents. Boston: W. M. Leonard.

In this article Miss Wright gives, in detail, a series of exercises which have proven helpful in her practice in restoring to the maximum of strength possible the weakened muscles resulting from infantile paralysis.

The *Eugenics Review* for January contains, among others, the following articles:

Insurance Research and Eugenics, Lewis P. Orr, F.F.A., Secretary to the Scottish Life Assurance Company.

Legal Certificates of Health before Marriage, Dr. A. Mjöen.

Notes on the Reports of the Royal Commission on Divorce and Matrimonial Causes, Major L. Darwin.

Human Fertility, J. A. Cobb.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list records the publications received (other than periodicals in exchange) from January 28 to March 31, 1913, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Bureau of Labor: Bulletin 107, Law Relating to Insurance of Salaried Employees in Germany. Bulletin 109, Statistics of Unemployed and the Work of Employment Offices.

Department of the Interior: Bulletin 47, Notes on Mineral Wastes. Bulletin 49, City Smoke Ordinances and Smoke Abatement. Technical Paper 27, Monthly Statement of Coal-mine Accidents in the United States, Jan. to Aug., 1912. Bulletin 524, Bibliography of North American Geology for 1911 with Subject Index. Thirty-third Annual Report of the Director of the United States Geological Survey.

Bureau of Mines: Bulletin 45, Sand Available for Filling Mine Workings in the Northern Anthracite Basin of Pennsylvania. Second Annual Report of the Director of the Bureau of Mines to the Secretary of the Interior.

Twenty-third Annual Report of the Board of State Charities of Indiana for the year ending September 30, 1912.

Eugenic and Social Welfare, Bulletin No. ii of the Bureau of Analysis and Investigation of the New York State Board of Charities.

The Tuberculosis League of Pittsburgh, pamphlet volume ii, No. 9, February, 1913.

Lilly Scientific Bulletin, series i, 2, Nov. 9, '12.

The Possible Functions of the Life Insurance Company in the Conservation of Health. Eugene Lyman Fisk, M.D., New York.

Physical Economics—With Reference to the Economic Value of Man and the Measurement of Damages to any Part or Parts of His Body, by Standards of Measurement and Mathematical Formulas, in a Manner Equitable to all Concerned. Erastus Eugene Holt, A.M., M.D., LL.D., Portland, Me. (Reprint.)

Some Notes on Recent Typhoid Fever Outbreaks in Kona, Hawaii. E. S. Goodhue, A.M., M.D. (Reprint.)

Association of Life Insurance Presidents: Birth and Death Bookkeeping.

Proceedings of the American Philosophical Society, October–November, 1912.

Thirteenth Census of the United States: 1910. Abstract.

Transactions of the American Climatological Association for the year 1912, Volume xxviii.

A Privileged Medical Class. G. Frank Lydston, M.D., Chicago. (Reprint.)

Teachers College, Columbia University, Doctoral Dissertations: 1. Mental Fatigue, by Tsuru Arai. 2. The Negro at Work in New York City, by George Edmund Haynes, A.M. 3. A Hoosier Village, by Newell Leroy Sims, A.B., A.M. 4. The Labor Movement in France, by Louis Levine.

Seventh Annual Report of the President and of the Treasurer of the Carnegie Foundation for the Advancement of Teaching for 1912. (Reserved for further notice.)

The Obligations of the United States as to Panama Canal Tolls. Speech of Hon. Elihu Root, of New York, in the Senate of the United States, January 21, 1913.

National Collegiate Athletic Association: Replies to a Questionnaire on College Athletic Administration. Frank W. Nicolson. Proceedings of the Seventh Annual Convention held at New York City, December 27, 1912.

Annual Report of the Directors of American Telephone and Telegraph Company to the Stockholders for the year ending December 31, 1912.

INSTITUTIONS OF LEARNING.

Colorado: University of Colorado, Bull. xiii, 1, Ja. '13. *Connecticut:* Yale University, General Cat. 1912–13. *Illinois:* University of Chicago, The President's Report, 1911–12; Coe College, Courier, xii, 6, Ja., xiii, 7, F. '13. *Maine:* Bates College, Bull. 10th s, 2, Mr. 1, '13. *Massachusetts:* Amherst College, Bull. ii, 2, D. '12. Cat. 1912–13. Clark University, Register and 25th Official Announcement, 1913. Harvard University, Official Register, x, 2, Pt. 1, F. 20; x, 3, Pt. II, F. 11, '13. Reports of the President and Treasurer of Harvard College, 1911–12. Massachusetts Institute of Technology, Bull. 48, 2, Jan. '13. Tufts College, Bull. xiii, 2, D. '12. Annual Report of the President, 1911–12; 3, Ja. '13, Annual Cat. 1912–13. Wellesley College, Calendar, 1912–13. *Missouri:* Central College, Nile-Green and Black, vi, 3, F. '13 University of Missouri, Bull., Medical Series, 1, 1, Ja. '13; Studies, Social Science Series, ii, 2, Ag. '08. *Nebraska:* University of Nebraska, Studies, xii, 1, Ja., 2, Ap. '12; Agricultural Experiment Station, Bull. No. 39, F. '13; Nos. 131 and 132; xxiv, Article II. *New York:* Columbia University, Cat. 1912–13. Hobart College, Cat. 1912–13. Polytechnic Institute of Brooklyn, Cat. of College of Engineering, 1913–14. Wells College, 45th Annual Cat. 1912–13. *Ohio:* Findlay College, Bull. of Information, ix, 1, Jan. '13. Cat. 1912–13. Oberlin College, Annual Reports of the President and Treasurer, 1911–12; Annual Cat. 1912–13. University of Cincinnati, Annual Cat. 1912–13. Western Reserve University, Cat. 1912–13. *Virginia:* University of Virginia, Alumni Bull., 3d s, vi, 1, Ja., 2, F. '13; Cat. 1912–13.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. William Seaman Bainbridge, New York; Wells P. Eagleton, Newark, N. J.; Edward L. Oatman, New York; Frank R. Starkey (2), Philadelphia.

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THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

LEADING ARTICLE.

THE FOURTH INTERNATIONAL CONGRESS OF SCHOOL HYGIENE.

The Fourth International Congress on School Hygiene will be held in the United States this coming August because the Mayor of the City of Buffalo sent a delegate to the Third International Congress on School Hygiene held in the City of Paris during the month of August in 1910, inviting the Permanent International Committee having charge of these Congresses to hold the next one in the City of Buffalo. Several public-spirited citizens of Buffalo personally guaranteed the expenses of this Congress. The American School Hygiene Association undertook to organize the Program, and look after the Scientific Exhibit. The Permanent International Committee accepted the invitation from the Mayor of the City of Buffalo and the citizens of that municipality and the officers of the American School Hygiene Association and are now making every effort to support their obligation successfully.

The main emphasis in the plans for this Congress is being laid upon the ways and means of supplying the important facts of school hygiene to those people who will use them. An energetic campaign is being organized for the purpose of bringing the objects of the Congress to the attention of public-spirited citizens in every community in the United States and Canada. It is hoped that a wide membership may be secured through which the published Proceedings of this International enterprise may be distributed to a great many communities. If this membership can be made up of people who are interested in improving their local school conditions it will go a long way towards bringing to the officials of the Congress a realization of their ideal.

The program of the Congress is being organized to include papers covering the hygiene of city, village, and rural schools as well as schools for exceptional and abnormal children. At the present time some two hundred and fifty papers have been promised. These papers deal with a great variety of subjects connected with school buildings, school sites, school equipment, school maintenance, teachers, janitors, pupils, home relation, the curriculum, the schedule, medical inspection, sanitation, school nurses, and other related subjects. Special sessions on the program are being arranged by the Committee on School Feeding of the American Home Economics Society; the National Mouth Hygiene Association; the American Association of Sex Hygiene; Society of Illuminating Engineers; the American Physical Education Association; the Society of Directors of Physical Education in the Colleges; and other organizations.

The Exhibit is divided into two large parts: the Commercial Exhibit will deal with those commercial products which are concerned with the various phases of school hygiene. This Exhibit should be highly instructive. The Scientific Exhibit will deal first: With a carefully organized epitome of the published results of work on school hygiene found in the more recent literature of the world; and second, the Scientific Exhibit will deal with theory, practice, and results of school hygiene as may be illustrated objectively, by diagrams, drawings, photographs, charts, tables, models, and other means of graphic display.

The various subdivisions of the Buffalo Citizens' Committee are actively interested in planning for the entertainment of the guests in the city during the session of this Congress. Hundreds of Boy Scouts dressed in uniform, will, it is said, be on duty at the depot, in the Exhibition Hall, and at the City Hall where the section meetings are to be held, for the purpose of escorting, directing, and assisting the members of the Congress in every way possible. Plans are being laid for a reception, a grand ball, a pageant of school children, excursions to Niagara Falls, and visits to the great industrial plants of Buffalo.

The United States Government has issued invitations through diplomatic channels asking the nations of the earth to appoint delegates to represent them at this Congress. The Executive Committee organizing the Congress has sent invitations to appoint delegates to the Governors of our states, to the Presidents of our colleges, to our State Boards of Health and Education, to the Mayors of our cities, and to our Municipal Boards of Education and Boards of Health, and to a number of National societies and organizations, whose educational and medical interest associate them logically with an enterprise of this kind.

President Wilson has accepted the Honorary office of Patron of the Congress. The President of the Congress is Mr. Charles W. Eliot, one time President of Harvard University; Dr. William H. Welch, of Johns Hopkins University, is the First Vice-President; and Dr. Henry P. Walcott, President of the recent International Congress on Hygiene and Demography and Chairman of the Massachusetts State Board of Health, is the Second Vice-President.

Organizing Committees have been formed in thirty-three foreign countries and in forty-five of our states. The Women's Clubs of America have become interested and are forming local committees on school hygiene for the purpose of helping the Congress and for the development of the permanent local influence for the benefit of those influences which affect the life of the school child.

There are good reasons for expecting that this Congress will leave a permanent impression upon school conditions in this country. A number of the state organizing committees are contemplating permanent organization in the interest of school hygiene. The Women's Clubs have the same object in view.

If these various organizations establish themselves upon a permanent basis the influence of this Congress will eventually be measured in terms of healthy children, happy homes, successful citizens, and more efficient community.

THOMAS A. STOREY.

THE IMMIGRATION OF THE TUBERCULOUS INTO THE UNITED STATES—A PROBLEM FOR EVERY NATION.[1]

By S. Adolphus Knopf, M.D., New York, Professor of Medicine, Department of Phthisiotherapy of the New York Post-Graduate Medical School and Hospital.

In the early part of 1902, when the Treasury Department of the United States, upon the recommendation of the Surgeon-General of the Marine Hospital Service, decided to classify pulmonary tuberculosis with dangerous contagious diseases, I submitted the following resolutions to the New York Academy of Medicine:

Whereas, The Treasury Department of the United States, upon recommendation of the Surgeon-General of the Marine Hospital Service, has recently decided to classify pulmonary tuberculosis with dangerous contagious diseases, be it

Resolved, That the New York Academy of Medicine deeply deplores this decision, which is not based either on clinical experience or on scientific experiments.

Resolved, That the Academy considers the exclusion of non-pauper tuberculous immigrants and consumptive aliens visiting our shores, unwise, inhumane, and contrary to the dictates of justice. Be it further

Resolved, That while the Academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the Academy is opposed to all measures by which needless hardship is imposed upon the consumptive individual, his family, and his physician.

These resolutions were seconded by my beloved and much regretted teacher, the late Professor Edward G. Janeway, and unanimously adopted at the Academy's regular meeting on February 6, 1902. Copies were sent to the Treasury Department, to the Surgeon-General of the Marine Hospital Service, and to the medical press. A number of other medical societies passed similar resolutions.

The attitude which I expressed in these resolutions ten years ago towards the immigration of the tuberculous into the United

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[1] Read before the American Academy of Medicine at the Thirty-seventh Annual Meeting in Atlantic City, June 1, 1912.

The paper was intended to be delivered before the Tuberculosis Congress in Rome, April, 1912. Owing to the inability of the author to be present, it was read only by title, but will appear in the Transactions of the Congress.

States, I still maintain. I am to-day as strongly opposed as ever to allowing foreign governments to unload their absolutely poor and dependent consumptives on these shores. But I am also to-day as then convinced of the injustice, the inhumanity, yes, even the cruelty, of not admitting a well-to-do patient no matter in what stage of the disease, whether he comes as a mere visitor or with the view of settling in some of our salubrious climates for the purpose of regaining his health.

What would the United States government say if a well-to-do American citizen, whom his physicians had sent to Davos Platz, the Riviera, or the Black Forest, for the purpose of regaining his health, should be returned by the Swiss, French, or German government as an undesirable alien. That none of these governments have retaliated is a wonder. Recently a wealthy Englishman was detained on Ellis Island because of tuberculosis and it required considerable diplomatic cabeling between London and Washington to have this refined, cultured, and well-to-do gentleman released and permitted to visit his friends in this country.

I mention this case merely to show you the unfairness of the Treasury Department's decision regarding tuberculosis. This decision is not only unfair but thoroughly unscientific; there is no basis for classing tuberculosis among the dangerous contagious diseases, such as smallpox for example.

What modern sanitarian, philanthropist, or general practitioner would dare to make such a classification. Phthisiophobia, that is to say the exaggerated fear of the presence of a consumptive, has never received such an impetus as it secured from the Surgeon-General's recommendation. The word "contagion" comes from the Latin *contingere*, to touch, and surely, to the best knowledge of clinicians and experimenters, the mere touch of the consumptive has never yet given rise to tuberculosis in another.

It is possible that among my hearers there may be some one who has read the statement recently made by Poncet of Paris to the effect that the perspiration of the consumptive, that is to say the liquid matter secreted by the sweat glands, contains the tubercle bacilli. Thus far it has been impossible even to find the tubercle bacilli in the blood, and Rosenberger's experiments tending to show that bacilli can be found in the blood of the tuberculous, could not be corroborated by our most careful bacteriologists. The same must be said of Poncet's experiments. There is thus far no bacteriologic or clinical evidence of the presence of bacilli in the perspiration of phthisical patients. But even granting that Poncet's statement should be true, an infection from the cutaneous surface of the tuberculous patient by the mere touch is somewhat difficult to conceive of. A considerable quantity of the perspired fluid would have to find entrance into the digestive tract or enter the system by the inoculation process. The inoculation method could only be conceivable in the case that the supposedly infectious perspiration came in contact with an open wound. However, as everybody knows, the ordinary hygiene of the skin and the proper disposal of the soiled personal and bed linen of the patient would suffice to do away even with this possible source of infection. Such statements as that of Poncet, which after its announcement in Paris was cabled to our daily papers and printed broadcast, have invariably the unfortunate tendency to increase the, alas, already so wide-spread phthisiophobia. The lot of the average consumptive is hard enough as it is without increasing the unjustified prejudice against him.

We are preaching every day that to associate with a careful, clean, and conscientious consumptive is perfectly safe; that it requires prolonged exposure, absolute inhalation, ingestion, or inoculation of tubercle bacilli in order to produce the disease. Surely, no one can deny that the New York Health Department, under the leadership of Dr. Hermann M. Briggs, has done most efficacious work in the municipal control of tuberculosis. Yet, from the very beginning of our anti-tuberculosis crusade, tuberculosis has been classed with communicable and not with contagious diseases.

In defending a more scientific and less oppressive attitude toward the tuberculous, poor or rich, as stated in the resolutions above referred to, I nevertheless maintain that it is absolutely just for any government to refuse to be burdened with the tuberculous poor of another country. Instead of returning the tuberculous immigrant we should prevent him from coming and so save him hardships and disappointments. Although a large number of tuberculous immigrants are returned, very many of them pass unnoticed. It is no reflection on the ability of the medical men on Ellis Island when I say they do not by any means detect all the tuberculous invalids, and that they diagnose only those who show very strong outward signs of tuberculosis. How should the men stationed at Ellis Island be able to detect at a glance a tuberculous invalid in a first or second stage, when it often takes an expert a half or three-quarters of an hour before he can arrive at a definite conclusion, and that after a careful examination in the quiet of his office?

The examining physicians on Ellis Island, because there are only a small number of them, can devote but very few minutes to each of the thousands of immigrants which pass before them weekly for inspection. The excellent appearance of some tuberculous immigrants, because of a ten days' voyage, invigorating sea air, good food for rest, has been to my mind in many instances the reason of the non-discovery of invalids in quite advanced stages. When they have been admitted to this country, a few weeks of hard work in the ditches or in the sweatshops, with nights spent in overcrowded tenements or unclean or crowded lodging-houses, usually suffice to bring about an exacerbation of the disease. The strain, the struggle for life, the new environments, the unaccustomed food, and perhaps also some nostalgia and disappointment, likewise help to turn, in a very short time, an incipient case into an invalid with open tuberculosis, and thus a new center of infection is formed. All this accounts for the great prevalence of tuberculosis among the laboring classes who have come to us from foreign shores only relatively recently. A goodly number of them return to their native land, particularly the Italians, when they realize that their disease does not permit them to struggle as they must if they wish to remain here. I have been told that there are villages in Italy where tuberculosis has become most prevalent because of the return of those emigrants and because their methods of life result in infection of others.

Some return voluntarily to their native homes, but you perhaps are not aware that we have a deportation law,[1] which, as a good American, I am sorry to admit, seems unnecessarily harsh and unjustified, founded as it is on an unscientific basis. It is to the effect that any immigrant who has become a public charge in a hospital or other institution and is found to be tuberculous, can be deported even after a residence of three years if in the opinion of the examining physician he had contracted the disease prior to his landing on these shores. During the year of 1911, about 1500 of such tuberculous aliens were referred to the State Board of Charities for deportation. On the strength of this law the deportation is done at State expense.

With all due respect to the framers of this law, I believe it absolutely impossible for the most skilled diagnostician, upon examination of a tuberculous chest, to state the duration of the disease with even approximate certainty. A declaration that an individual had tuberculosis for a definite period of time, based on a physical examination or even on the history given by the patient, must necessarily be guess-work. I know of a case of deportation which was declared legal upon the statement of a young physician to whom a tuberculous patient had admitted that he remembered having had a cough a little less than three years ago, prior to his coming to this country.

How many thousands of us have a latent tuberculosis which has never been discovered and which may never cause us any trouble if we continue to live carefully and hygienically! Should we, however, be submitted suddenly to a life of hard physical struggle, be transported into unhygienic environments, be underfed and badly housed, the development of the tuberculous trouble would be almost certain to take place, and in a much shorter time than three years. One must have witnessed such a deportation in order to comprehend its meaning, particularly when one is not at all certain that the case might not be one which developed right here because of hard work and privation.

And now, to the most important question of all: what can be done to prevent tuberculous invalids, likely to become a burden to the community, from entering the United States, only perhaps to be deported after a sojourn of one, two, or three years? Tuberculosis must be considered a world problem, a problem for every civilized nation. Let European governments understand that they must take care of their own tuberculous people as we take care of ours, and that in the end, by united efforts, it may be possible to conquer the white plague in all countries.

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[1] Immigration Act of February 20, 1907.

Every prospective emigrant should be examined to ascertain his freedom from tuberculosis by two competent medical men, one appointed by his home government and one by the steamship company which is to transport him to these shores. A certificate showing freedom from tuberculosis, signed by these two medical men, should be in the possession of every emigrant wishing to come to these shores. An individual discovered to be afflicted with this disease should be returned to the care of the authorities of the city or village from which he came with the diagnosis and recommendation for treatment. Exceptions can and should be made in the case of an individual with ample means who is simply visiting, or seeking to recuperate his health by a change of climate, or desirous to enter an American sanatorium for treatment. To avoid misuse or fraudulent use of the physician's certificate, a photograph should be taken at the time of the examination in the home port and attached to the certificate. Or, since a photograph could be removed and another one substituted on the certificate, I even go so far as to suggest that it would be well to have the finger-print taken for identification. This is the most accurate and scientific method known for such purposes.

The laws relating to deportation should be changed to the effect that if the holder of any such certificate, or any immigrant who develops tuberculosis within six months to one year from the date of his arrival here and becomes a charge to the community, he shall be deported to the port whence he came. The expenses for this deportation should be borne by the steamship company who brought the immigrant to our shores and not by the State Board of Charities. Whether, to avoid possible mistakes in diagnosis, European governments in coöperation with the steamship companies, should desire to keep doubtful cases under observation a few weeks, or increase the examining boards by one or two more experienced diagnosticians, is a matter for the foreign governments to decide. There is no question but that the more careful these examinations are at the ports, the fewer cases of deportation will ensue.

The suggestion has been made that physicians of the Public Health and Marine Hospital Service be stationed at the important points of departure in Europe so that each emigrant can be thoroughly examined, and those entitled to a clean bill of health be allowed to take passage. I question that the international law would sanction such procedure on the one hand. Secondly, there are too many minor points from where emigrants could take passage and escape the United States government physician's examination. Of greater value would it be for foreign governments and steamship companies to make it known that if a man expects to stay in the United States, he must not become a public charge; that he must be physically, morally, and mentally sound. With such publicity and the additional examination in the manner above outlined, the United States government will be less burdened with the care of tuberculous aliens who, uncared-for, are a constant menace to the community.

An interesting suggestion in relation to this subject was made at the recent International Tuberculosis Congress in Rome by Dr. Antonio Stella, of New York. It was to the effect that every emigrant should be insured against tuberculosis, the cost of the insurance to be added to the price of the steamship ticket, the policy entitling the bearer to return transportation and treatment in a sanatorium in the event of his contracting tuberculosis within a specified time.

This suggestion was presented in the form of a resolution, which was unanimously adopted, but whether or not it results in any immediate or definite action no country should have uncared-for tuberculous patients, for the uncared-for, the untrained, and untreated tuberculous are sure to propagate the disease among their kin and neighbors and procreate a tuberculously predisposed race. The efforts of the medical profession and authorities in some of our States are in the right direction when they enact and enforce laws which forbid the consumptive from contracting marriage and when they declare that no tuberculous patient who is careless either knowingly or unknowingly, or is unable to take care of himself, should be allowed at liberty. It would be well for some of the foreign governments to establish similar laws and regulations. I go so far as even to recommend sterilization (vasectomy for the male and ligation of the Fallopian tubes for the female) if these individuals insist upon marrying while ill with a directly or indirectly transmissible disease such as tuberculosis. I believe in using the most humane means possible in all our efforts to suppress tuberculosis, but we should enforce them not merely in self-defense but in the interest of foreign governments themselves. I plead that they should take care of their tuberculous poor, educate, train, and treat them and heal those who can be healed. The hopelessly ill should be segregated to prevent them from infecting others and from procreating. This should be not merely an American or a national, but the international policy of every civilized nation. If any government will cure its curable patients and make of them strong, vigorous, self-supporting citizens, as we have been fortunate enough to do with many of our own tuberculous invalids, then will we welcome these sane and sound people to our shores and try to make good Americans of them.

IMMIGRATION AND THE MIDWIFE PROBLEM.[1]

By Ira S. Wile, M.S., M.D., New York City.

The interrelation of immigration and midwifery may not seem patent at first glance. A moment's thought, however, will show that in the problems relating to the restriction of immigration and the restriction of midwifery there are many points in common, not the least of which is the fact that both subjects are constantly suffering from criticism based upon inadequate and unintelligent study. The legal status of the immigrant, and the legal status of the midwife also present points of contact.

At the present time the influx of immigrants is greater from the countries in Southern Europe where the midwife exists as an established social institution. In 1910 over 20 per cent. of our immigration was from Italy, 25 per cent. from Austria Hungary and 18 per cent. from Russia. These are suggestive of the nationalities whose women are wont to make use of the midwife. In this country midwives are largely used by the Mexicans, Italians, Swedes, Syrians, Hungarians, Bohemians, Slavs, Poles, Finns, Russians and Austrians. This broad-spread national usage within this country makes apparent the relation between immigration and the midwife problem, and bids us consider for a moment what relation immigration has to the general subject of midwifery.

It is impossible to glean from immigration statistics any knowledge as to the number of midwives who enter into this country, nor, indeed, is it possible to get any adequate information upon this point from an examination of the records of the various states of this country. The confusion which exists may be illustrated by the following: 21 cities in the United States report 3360 midwives, 11 states report 3708 registered midwives, while 8 states report 4808 midwives as practising in the state. 12 states at least are frank enough to admit that they do not know anything about the midwives that are in their states: how many there are, or even the number of births that are reported by them.

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[1] Read before the American Academy of Medicine at its Thirty-seventh Annual Meeting, Atlantic City, June 1, 1912.

A study of the midwives registered in New York City shows that of 1344 midwives only 9.1 per cent. were born in this country. 26.4 per cent. were Italians, 20.6 per cent. Austrians, 23.1 per cent. Germans, and 15.3 per cent Russians. An investigation of 223 midwives in Chicago a few years ago showed of this small number 84 to be Germans, 36 Polish, 31 Bohemians, 13 Swedes and 8 Italians.

This brief reference to the nationality of the midwives gives some index of the relation of immigration to the midwife problem, but the problem has just begun in many ways. It is a striking fact that at the present time our immigration as indicated in 1910 consists largely of males from Italy, Russia, Roumania and Bulgaria, while the older type of immigration, such as the Scotch, Irish, French and German, reveals a more equal proportion of the males and females. This is well illustrated by the fact that for the year ending June 30, 1910, the immigration of Bulgarians, Servians, and Montenegrins showed 14,253 males and 877 females.

	Males	Females
North Italians	23,754	7,026
South Italians	151,249	41,424
Russians	14,918	2,376
Roumanians	12,602	1,597
Scandinavians	35,019	17,018
Scotch	15,546	9,066
Irish	21,075	17,307
French	11,715	9,392
German	42,191	29,189

In the present type of immigrating nationalities this disparity of the immigration of the sexes suggests that with the betterment of the economic conditions of the males in this country, a greater proportion of the females immigrate into this country, or else the prosperous males return to their own country. The facts show that the former hypothesis more nearly approaches the truth. This means that within a few years there will be a larger influx of females from Southern Europe, matrimony will be increased, and in consequence there will be a demand for a larger number of midwives. In other words, the present midwife problem in this country will be intensified in the future through immigration unless some check, at present not in use, tends to change the history of immigrants.

In their home countries, the women of various nations make free use of the midwives. The reason for this exists in traditions of many years' standing, and likewise the existence of a legal status of the midwife in the various countries. The midwife of the Heimath is a woman of recognized economic position with more or less adequate training and under government supervision. For example, the obstetric training which is given to midwives abroad is usually under charge of the same professor of obstetrics who gives the course of instruction to the medical students, and the midwife receives an excellent medical training. When one realizes the sad commentary upon medical education as related to midwifery, as pointed out in the article of J. Whitridge Williams, in which he says "One half of the answers from professors of obstetrics throughout the United States state that ordinary practitioners lose proportionately as many women from puerperal infection as do midwives and over three-quarters declare that more deaths occur each year from operations improperly performed by practitioners than from infection in the hands of midwives," it is well to think of the education that is given to our immigrant midwives. Dr. Barton Cooke Hirst practically states that our obstetric training is below the standards of almost all other civilized countries. Only three schools in America, according to this teacher, have facilities to meet the demands of any country. Our immigrant midwives who have received foreign training are certainly more capable and efficient in obstetrical work, at least when they come to this country, than are the graduates of our own medical institutions. The Prussian midwife receives professional training on the average of 9 months; in France at least one year; in Italy two years; Switzerland 6 months; Japan one year; Netherlands 1 to 2 years; Belgium 2 years; Scandinavia 1 year; England 6 months to 9 months. England has an elaborate system of training, supervision and control of the midwives. It is but natural that under such a social system the midwife should have a definite legal, economic and social status and that the people requiring her services should have confidence in her ability to give adequate care.

Such a state of affairs does not exist in this country. There are no legal standards, practically; there is no recognized system of supervision or control and no plan of education has been adopted in any particular State of the Union. Wherefore, the foreign trained midwife must needs come into competition with the graduates of the midwife diploma mills. Her status has altered, and naturally, or unnaturally, she is relegated into the position of a social outcast, scorned, maltreated, libeled and ignored, depending upon the particular State in which she takes up her work.

That there is a clientele awaiting her, anxious to make use of her services, is manifest by the large proportion of births which are registered by midwives. For example: 47 per cent. of the births reported in Chicago come from the midwives; 40.7 per cent. of the births of Baltimore; 45 per cent. in New York; 53 per cent. in Jersey City; 53 per cent. in Bridgeport; 24 per cent. in Philadelphia; and 5 per cent. in Omaha. This is merely suggestive of the fact that the total number of births, where reports are available, shows that the midwives are in attendance in from 5 to 53 per cent. of the confinements in various cities of the Union. It seems a blind position to neglect to appreciate the value of a class of the community which is responsible for the care of a mother and child in at least 45 per cent. of the births of this country.

Another striking fact comes to hand. The immigrant midwife coming into this country enters into competition with physicians whose training frequently is not as good as her own. Under the stress of economic necessity their fees become low and probably average between $5 and $8 a case. In addition to their technical care, they give nursing attention and serve in the capacity of housekeeper, so that their services are far more valuable to the household, considered in its general aspects, than are the strictly professional duties performed by the physician competing for the same class of patrons.

The foreign-born and trained physician, however, who immigrates to this country on the same boat with the midwife and who must needs take up obstetric or medical work, is not permitted by the laws of this land to enter into the practice of medicine or surgery in most of the States of the Union, until he has passed a State examination. To illustrate: during 1910, 365 physicians immigrated to this country, which number was composed of 7 Mexicans, 6 Russians, 13 Scandinavians, 14 French, 42 Scotch, 42 Italians, 40 Germans and 86 English physicians. These physicians, representing for the most part men trained by the same type of obstetricians as gave the professional training to midwives from their own nationalities, are not permitted to take up the practice of medicine, of which midwifery forms a part, without having their qualifications passed upon by representatives of the State.

The man midwife, as such, does not appear to be a recognized institution, and it is doubtful if the physician unable to pass the State examination as a doctor, would desire to take up the work as a midwife, which he might readily do inasmuch as he has had the adequate training, and there are no laws to prevent him from so doing.

As the result of questionnaire sent out to the State Boards of Health, replies were received from the officers of 42 States. Only 14 admitted having any laws or regulations, State, County or City, relating to the practice of midwifery; only 10 could give any information as to the number of midwives registered in their States; while only one could give any report as to the number of births reported by midwives during the year 1910. In two states the presence of midwives is not officially recognized, though in both of these States midwives are signing birth certificates.

At the present time, as far as we know, there are only two States, Ohio and Utah, that concede the existence of schools for midwives, although it is well known that numerous schools giving diplomas in midwifery exist throughout the country. Recently a school for midwives has been established in New York City to give thorough training to midwives. It is absolutely essential to have provision made for education before it is possible to establish standards for the educational and professional qualifications of midwives. Of 1344 midwives in New York City, 38 per cent. hold diplomas from foreign schools. Of 150 Baltimore midwives 42 had diplomas from foreign schools, and in Chicago of 223 midwives 67 had diplomas from foreign schools. Of the 1344 midwives in New York City, however, 42.6 per cent. presented diplomas from schools within the United States. Apparently the question of education is being taken up by the midwives in this country, and also by those men who see in this class of people a chance for exploitation, although it cannot be gainsaid that some obstetrical training is better than none.

Much of the discontent with the service of midwives has arisen from lack of understanding of their necessity and the traditions for their existence. With a lack of legal status, with real freedom from legislative control, it is not unnatural that a midwife should undergo degeneration in this country. Yet it is a striking fact that in New York City 29 of the midwives arrested had a United States diploma, while only 9 were arrested having a foreign diploma, showing that apparently the standard of morality created by the United States diploma mills is not comparable with that built up by the foreign schools, or else the foreign-trained midwife is more shrewd in her illegality and less frequently detected.

These figures are substantiated in Baltimore where 48 out of 100 midwives were suspected of criminal procedures, but 25 of this number were Americans or negroes out of a total number of 80 belonging to these two groups.

Criminality among midwives is presumably all too frequent, although probably it occurs in no larger percentage of the cases than exists among the types of physicians with whom the midwives are competing. As immigration is designed in part to limit the entrance of criminal classes to this country, it is desirable to know what proportion of the females coming to this country are midwives and how many are convicted for performing illegal operations within the three-year period so that prompt deportation might occur whenever such conviction was secured.

Immigration presents a problem as regards infant mortality and in this phase of the problem, the question of immigrant midwives deserves full consideration, inasmuch as she has the multiform position of medical attendant, nurse, housekeeper and general adviser regarding the care of the infant whom she has brought into the world, during the period of her attendance upon the mother.

Dr. Newsholme recommends the adequate training of midwives as an essential feature of every program designed for reducing infant mortality.

That midwives are effective in preserving the lives of mothers that they later may take care of their own children may be illustrated by figures gleaned from Italy and England. In Italy the deaths from puerperal fever in 1887 were 8.5 per hundred thousand. In 1890, a law providing government control of midwives was enacted. The death-rate from this single cause dropped to 3.2 per hundred thousand in 1902. Deaths from all other diseases of pregnancy, parturition and the puerperium dropped from 15 per hundred thousand in 1887 to 5.3 per hundred thousand in 1902. In England the midwives Act went into effect in 1902. The deaths from puerperal fever for the 15 years previous to 1903 varied from 10.9 to 20 per hundred thousand females living; in 1903 after the Act went into force the rate from this cause dropped to 9.7, and in 1907 it had fallen to 8.1 per hundred thousand.

In order to appreciate the relation of immigration to midwifery, it is necessary to ascertain how many midwives are admitted to this country. In order to protect the country from the unscrupulous midwife, it is essential that a system of education, supervision and control be established throughout the various States of the Union. Only by education, standardizing, legislating and controlling the immigrant midwife will it be possible to prevent an increase of the dangers now attributed to midwifery as it at present exists among our constantly increasing immigrant population. The increase in midwives depends upon the increase of female immigration. The standards of midwifery in this country should be raised at least to the standards existent in the countries from which the immigrant midwife comes. By the further control of immigration and the securing of information relating to the educational, professional and legal status of midwives, it will be possible to place the midwife problem in an intelligent manner before the American public.

TRACHOMA IN THE MODERN IMMIGRANT, AND ITS DANGERS TO AMERICA.[1]

By Clarence Payne Franklin, M.D., Philadelphia.

A symposium on the Medical Problems of Immigration embraces rather a consideration of the sociologic factors involved than a detailed examination of the technical side of the subject, therefore I shall confine myself to an exposition of trachoma as a disease which we do not want; which we do not wish to see our neighbors have; and one which we are endeavoring to keep out of our country.

A consideration of the demography of Europe, Asia, and Africa will inevitably disclose the existence of trachoma on those continents from the earliest times. Trachoma seems, by a consensus of opinion, to have had its birth in Egypt, or at least there we find the earliest recorded facts about that which must have been trachoma, for in the Ebers Papyrus, discovered in 1872, in Thebes, the oldest book on medicine known, written in 1550 B.C., a thousand years before Hippocrates, there are statements and prescriptions proving that the Egyptians recognized the condition of "blear eye" or watery eye, and Hirschberg is of the opinion that the expression means eye affections with considerable secretion, especially the sequelae of chronic granular conjunctivitis. It is fair to assume, then, with Boldt, that "Trachoma is as old as the Nile, the simoom, and the desert."

The argument has been put forth that the saying in Exodus, Chap. X, that Jehovah caused darkness to cover the land of Egypt, referred to trachoma, but we can hardly imagine that everyone in that land was made blind, therefore the argument has only a certain amount of forensic interest for us.

Well known and common among the Greeks and Romans, trachoma was lost sight of during the Middle Ages, when so much of the scientific progress of the classical times became buried in obscurity, but it arose in importance after the Rennaissance under the name of "lippitudo" and is written of by many medical authors.

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[1] Read by invitation at the Thirty-seventh Annual Meeting of the American Academy of Medicine, at Atlantic City, on June 1, 1912.

The disease assumed historical importance as an epidemic disease of military and civil life from the year 1798 when Bonaparte invaded Egypt and brought into Europe the scourge of trachoma, which spread with a contagion and virulence which the world had never before witnessed, as the disbanding of the troops of the various nations engaged in the Napoleonic wars offered facilities for contagion which were ideal.

In America, trachoma was introduced by immigration, and is now wide-spread in many parts of the United States, as can be proven by statistics, although, since the introduction of stringent laws for the prevention of entrance of infected immigrants, it seems to have suffered a distinct decline, as shown by the statistics of the large clinics.

A discussion of the existence and spread of trachoma in this country would take up the space of a volume alone, and would not be germane to the view of the subject under discussion; therefore, it is sufficient to say that it does exist, in considerable amount, here, and is wide-spread, but that its increase is from within, and not from beyond our borders.

A definition of trachoma here is probably not out of place, in view of the fact that this audience is, professedly, not one of ophthalmologists, and a mental picture of the disease we are considering will be of some aid in crystallizing our thought to-day into the conclusions toward which we are aiming.

Trachoma is a specific contagious form of conjunctivitis, extremely chronic, lasting months and years, and when left to itself, causing serious and permanent impairment of vision, and even frequently total blindness. In regard to this latter statement, it is but fair to say, that trachoma rarely causes total blindness in this country, either because of the greater resistance to its ravages due to the higher grade of living among the lower classes, as compared to those of Europe, or because of its more careful recognition and treatment than in the clinics of Europe.

While the cause of trachoma is as yet undiscovered, and remains to make the fame of some painstaking ophthalmologist, its diagnosis is fairly easy, if only because all doubtful cases can, for the public welfare, be classed as trachoma, until time and treatment make the decision.

Trachoma, then, assumes importance here in these United States, only insofar as we are concerned in efforts to detect and obliterate the cases of the disease introduced into this country previous to 1907.

In the latter year, Congress passed, among other laws relating to immigration, one referring to the exclusion of aliens suffering from "contagious and loathsome diseases." This is Section 2 of the Immigration Act of February 20th, 1907, and says: "That the following classes of aliens shall be excluded from admission into the United States—All— persons afflicted with tuberculosis or with a loathsome or contagious disease—."

The operation of this law, through the high efficiency of those connected with the Immigration Bureau, in coöperation with the members of the Public Health and Marine Hospital Service, has been so thoroughly put into force, and its mandates so completely obeyed, that trachoma, as a problem from the Immigration point of view, has become a negligible quantity.

The writer has made it a point, in the pursuit of detailed information regarding the management of the trachoma situation, to obtain all information first-hand, and therefore, during the last few years, inspection of quarantine work as performed by National, State, and Municipal authorities, has been made at the expense of considerable time and trouble, and, as a result, the opinion has been definitely formed that the national government's precautions, as inspected at Philadelphia, New York, and, to some extent, San Francisco, are perfect, so far as is humanly possible. The medical men of the Public Health and Marine Hospital Service maintain an *esprit du corps* quite as high as that in the Army and Navy, and their record is yet to be stained by suspicion of laxity, or subjection to unworthy influence, in the maintenance of the regulations.

At Ellis Island, where the visit was made unexpectedly as to particular date, although in response to particular invitation, there seemed to be only one rule possible of pursuit, namely, rigid obedience to the law, and the writer here wishes to go upon record regarding this station, as well as regarding Philadelphia and all the other points of entrance into this country, that there is no department of government that is more highly or more efficiently maintained than the above-mentioned service.

The incalculable benefit to this country of such a service needs no comment, to the thinking person, other than a reference to the history of other countries suffering from this plague.

Parsons, in his translation of Boldt's work on "trachoma," well says of England: "We are indeed acting as a trachoma filter bed to the United States;" but this situation is not because of the philanthropy of England, but because, without fear or favor, the health officials at our ports apply the rules of the service, and, not only exclude all aliens applying for admission, with trachoma, returning them to their ports of embarkation, at the expense of the steamship companies shipping them here, but also impose a fine upon the said companies of $100, for each case. Furthermore, the Public Health and Marine Hospital Service maintain, at several important ports of embarkation abroad, surgeons who examine the emigrants, and refuse permits for embarkation for the United States to all who in any way do not fill the requirements of our immigration laws. And when the writer repeats that the service is one without stain of political or financial suspicion, it goes without saying that here is one service for which the national government has never been called upon to apologize.

That a certain amount of trachoma will appear among the immigrants who do apply for admission, is shown by the figures taken from the reports of the Commissioner of Immigration and the Surgeon-General of the Public Health and Marine Hospital Service, for the last three years, where we find that, for the year 1908–'09, there were 2084 cases excluded; for the year 1909–'10, there were 2652 cases excluded; and for the year 1910–'11, there were 2504 cases debarred from entry; showing, first, that while the amount of trachoma coming from Europe apparently increases, yet, it is only in proportion to the increase in immigration, and, secondly, that we are in no greater danger from European epidemics as years roll on, but rather are becoming better protected.

The amount of trachoma in the United States, then, represents that which gained entrance before the passage of the Act excluding aliens suffering from loathsome and contagious diseases.

The work of detection and obliteration of trachoma within our borders goes on, and will go on, to the end, but its results are slower, because less coördinated, owing to the existence of state boundary lines, and the rights of individual states to manage their own health affairs.

There is a gradually growing sense of responsibility throughout our land, and a feeling of noble dissatisfaction with the state of the health of the mass of the population, which is bringing out, each year, more and better work in preventive medicine and eugenics, and which will lead, through the establishment of a national Department of Health, with its Secretary in the President's cabinet, to the dropping of state lines in health matters, so that disease may be fought in mass, rather than in detachment.

Who can help feeling the tense pathos of such a remark as that of Helen Keller, in her autobiography, where she says: "Gradually I got used to the silence and darkness that surrounded me, and forgot that it had ever been different," for, although her blindness did not follow trachoma, yet, like the trachoma sufferers, she had had the inestimable benefits of sight before she lost that precious gift, and the trend of modern thought is, altruistically, that our fellows shall not suffer the loss of any faculty if it be preventable; and, sociologically, that the burden of supporting the defectives shall not be placed upon the taxpayer while a fight can be made against such unjust imposition.

Already, seven of the United States have made trachoma legally reportable to the state health authorities, and Pennsylvania has about completed the organization of a complete medical inspection system that will, if properly carried out, place the Keystone State in a position towards which the efforts of her efficient Health Commissioner, Dr. Samuel G. Dixon, have already far advanced her, namely, the head of the list of states in health matters.

The Russell Sage Foundation, of New York, have had in operation, for some years, a Committee on Blindness, which has dealt with blindness from industrial accidents, ophthalmia neonatorum, wood alcohol, and trachoma, and from the efforts of this committee has arisen, under the leadership of Park Lewis, of Buffalo, the foundation of the American Association for the Conservation of Vision including the formation of a sub-committee in each state, to correlate, and organize to a high point of efficiency the work of the various sociologic and medical bodies having to do with the subject.

In Pennsylvania, the work of trachoma has been carried on, medically, by the Trachoma Commission of the Pennsylvania State Medical Society, and this Commission, after several years' labor is waiting to see what the state health authorities will accomplish regarding the trachoma situation. In Philadelphia, the Bureau of Municipal Research lately formed a Trachoma Commission to ascertain whether there were any trachoma cases unreported, in the public and parochial schools, and, in its report, the Commission stated that in its opinion there are many cases of trachoma in the schools of Philadelphia that are never reported, and the Commission made a set of recommendations that would, if carried out, rid the city of trachoma, and end the problem in one municipality, at least.

The New York municipality has had a larger problem on its hands, and has lately adopted a plan of isolation of school children suffering from trachoma, in special schools, with clinics attached. Much good will no doubt follow this method, for the system has long been in vogue in London, under the Metropolitan Asylums Board, of organized homes for such sufferers, where education progresses as the disease is combatted, and there is no chance of contagion, as the child lives entirely within the jurisdiction of the officials. This has been advocated for some years by the Trachoma Commission of the Pennsylvania State Medical Society, and there is hope that some day the final battle with trachoma will be waged in such state institutions.

The conclusions reached, then, by a consideration of the dangers to America from trachoma in the immigrant are:

First: That, owing to the splendid work of the Public Health and Marine Hospital Service at our ports of entry, as well as that of the various state quarantine services, further fear of the contagion from trachoma from aliens coming into the United States, has been unfounded since 1907.

Second: That the danger to America from trachoma comes from neglect of the contagion from aliens suffering from trachoma admitted prior to the passage of the law of 1897.

Third: That for the furtherance of the fight against trachoma within our doors, no more valuable assistance could be rendered than the endorsement, by the American Academy of Medicine, of the work of the American Association for the Conservation of Vision.

121 S. 16TH STREET, PHILADELPHIA, PA.,
JUNE 1, 1912.

THE DESIRABILITY OF TEACHING PREVENTIVE MEDICINE IN THE HIGHER INSTITUTIONS OF LEARNING.

By Henry Bixby Hemenway, A.M., M.D., Evanston, Ill.

Education has two objects—training of the mind, and the acquiring of information. In the lower schools the first of these objects is by far the most important, but the higher we go in the educational system training becomes relatively of less and less importance, and the information element becomes predominant.

Even the information factor may be divided, according to the object sought. The scientist learns German or French, not for the language *per se,* but as a key with which to unlock the doors to storehouses filled with special facts. Again, these special facts may be classified according as they may be used by the student in later life as a means of support, or as simply influencing his life as a member of society, or for the pleasure of knowing, which is the highest aim in true science.

In arranging a course of instruction, therefore, choice of subjects must be governed by the relative position of the institution in the educational system, and the character of the students, as well as their probable future lives. In considering the needs of the students, preference must of necessity be generally given to the character and aims of the majority, rather than to the exceptional man.

By the expression "higher institutions of learning" we understand that reference is made to that general class of schools familiarly called colleges of liberal arts, and to other colleges, academies, and seminaries, approximating in character thereto. The reasoning hereafter given in this article applies to technical institutions only in a very general way, except to those known as normal schools.

The expression "preventive medicine" is of recent origin. Its scope and importance is indicated by the old saw, "An ounce of prevention is worth a pound of cure." It is far easier to prevent a fire than it is to put it out after it has started, and if put out it may have wrecked and destroyed invaluable objects. From a biologic standpoint the most perfect life is health. Disease is a condition in which the life lacks its highest standard. Disease does not enter the body unaided, but it must be assisted by bacteria, unhygienic environment, and the personal sins of the victim. It was formerly supposed that hygiene—the preservation of health—was chiefly an individual concern. To-day it is recognized that the same conditions which produce disease in one person affect others in the neighborhood, and that one case of sickness may be a serious danger to a large city. It is impossible for one person to protect himself efficiently in a city infested, for example, with the plague. The interests of the citizens are common, and protection can best be secured by concerted efforts. In addition to the personal hygiene which has so long been recognized as a preventive power, we have more recently magnified the importance of organized efforts by the entire community. To-day this is the major part of preventive medicine.

Efficient organization necessitates, first, recognition of the need for organization. Second, competent workers in the field. Third, necessary support of the workers as individuals, and of the work conducted.

A recognition of the need for organization can come only when there is a general diffusion of basic principles in health work. So long as malaria was supposed to be an aerial miasm, and perhaps influenced in its spread by conditions of cold, or dampness, it would have been manifestly impossible to institute efficient antimalarial measures. When typhoid was supposed to be only waterborne, the need could not be recognized for food inspection and safeguards. Note the destructiveness of the fly at Chickamauga, in 1898. Unfortunately to-day, though there has been a great increase in the amount which a few know in this general field, the mass of citizens are still in midnight darkness. Having always been in that darkness they do not realize that there is any possibility of having more general light. How shall they be enlightened?

It necessarily follows that if the people as a whole are in darkness, and do not know the elemental facts of the present science of preventive medicine, they will be unwilling to furnish the supply of money needed for the work and for the support of the workers. Further, because the mass is ignorant of the need for the work, and also because they are not willing to pay the workers, those who should be preparing themselves for positions of responsibility in the service will not consider such a possibility. They can not.

Laws can neither be well made nor enforced unless the persons responsible are well informed upon the subject. In a republic all citizens have a responsibility in this regard, and it therefore becomes the duty of all persons to become posted upon the principles of preventive medicine. To thus become informed, they must have instruction, and the instruction must be in proportion to their capacity. It has been found that such education in the grade schools not only becomes an active leaven in the body politic, but that it also serves well as a means of teaching the scholar to think. But, in order that the teacher may properly give such instruction it is necessary that she be educated to a higher degree upon the subject. This presupposes that she shall have had instruction in her higher school training. She must be able by precept and example to lead the children into the light, and to inspire them to seek further advancement.

Take, for example, the subject of malaria. At Trinidad, Sir Rupert Boyce saw excellent studies of the life of the mosquito in the note-book of a little girl in the grade schools. Such a study teaches the child observation, as few subjects can. It trains both brain and muscular control, with an incentive which is lacking in mere training for training's sake. It serves therefore every essential of a true education.

In higher institutions the student may be taught how to study and analyze facts and statistics, the work of the laboratory, and research into the literature. These are matters of training, independent of the subject studied, but they are given additional interest to the student by virtue of the every-day application of the facts developed. Preventive medicine is therefore an ideal subject for advanced work in the arts and sciences, in schools of liberal learning.

Graduates from the higher institutions of learning are naturally looked to for guidance in forming public opinion. At present these graduates depend upon the uncertain and often erroneous information derived from the secular press. We can not expect that we may obtain wise laws relative to vaccination, for example, so long as the makers of public opinion are so profoundly ignorant as at present. There are few subjects so vital for the citizens as the preservation of public health. In selecting a curriculum, therefore, this subject should demand preference, especially since it is well fitted for the proper training of mental operations.

The literary colleges are far better fitted for giving the general, or fundamental ideas as to public health conservation than are any technical schools. There are, for example, certain principles of administrative law in the administration of health departments which may be easily given in connection with the courses in literary colleges, whereas, in a technical school the same instruction would necessitate the use of more time, and frequently it would require another instructor.

It is hoped and expected that before long all medical students must take one or more years in the literary colleges before entering the technical schools. The education given in a literary college should prepare the medical student to omit preliminaries, and devote his time spent in the study of preventive medicine directly to the purely technical portion of the subject.

No matter how thoroughly fitted the public health administrator may be, even if he may secure the passage laws which are satisfactory, the enforcement of such laws will be difficult or impossible until the people as a whole are educated up to a full appreciation of the facts. For example: Rabies was formerly supposed to be dependent upon hot weather. A law requiring dogs to be muzzled through an entire winter would be opposed by many ignorant, but well meaning people to-day. Enforcement of the law would require extra supervision, and would often necessitate expensive litigation, ending possibly in the repeal of the law, and the crippling of administrative efficiency.

So far we have spoken especially of a general education in preventive medicine. Up to the present time such instruction has not been usually given, and practically there is no possibility for such training unless the literary colleges wake up to the necessity, and make suitable provision in their curricula. It must be remembered that the technical education of professional workers in the field is to-day given in non-medical schools. In other words, there is fully as much, if not more, of the special education required which naturally falls within the schedules of schools of engineering, for example, as in medical schools. On the contrary, there is more in the medical school training which is foreign to preventive medicine. The result is that many of our foremost sanitarians are not graduates in medicine. In medical practice there is little need for knowledge of general zoology, geology, mechanics, mathematics, law, and higher chemistry, all of which are of great importance in preventive medicine. More than three-quarters of the medical course is only of remote application in preventive medicine. Medical men are a necessity in the work, and a medical man with the other education also is the ideal health official, but it appears that for some time at least very much of the technical training for health officials must be in non-medical schools.

At the University of Illinois, during the past school year, a course of free public lectures upon preventive medicine was given. The lecturers were prominent special workers. The course was freely advertised. In spite of this, the attendance was far from satisfactory. Prof. Milton J. Rosenau, of Harvard, gave the Harris Lectures at Northwestern University this year. His subject was intensely practical. A class of young ladies from the Normal School at Normal Park came twenty-five miles to attend the course. Still the attendance of Northwestern students was far from what it should have been. It is not sufficient that such courses be given. Since the subject is one of vital interest to the community as a whole, attendance on at least a portion of this instruction should be compulsory.

We would suggest that as a start one competent instructor be engaged. He might personally give lectures upon the general subject, and these lectures all Freshmen should be required to attend. He should also conduct class work, which might be elective. Seminar work should also be provided. Such an instructor might, through conversation with the professors in other departments, see to it that in the other courses emphasis be placed upon public health subjects. For example, the professor of zoölogy might well devote special attention to the classification, and life habits of flies, mosquitoes, ticks, and other insect carriers of disease, as well as the rat, ground squirrel, guinea pig, and other animals which are to-day receiving the attention of public health workers, either as dangers, or as subjects of experimentation. So, too, the department of political science should bring clearly before its students the special points in administration and legislation which have bearing upon this work. The botanical department may, and should, give instruction in the science of heredity, and in this even the chemical department may give assistance. Such instruction in other regular courses would not in the least disturb those courses, and they would aid not only in the practical education, but also by attracting attention to this field. These other professors, specialists in their fields, might also give a special hour occasionally to the class conducted by the professor of preventive medicine. Unless there be a professor, or instructor, of preventive medicine to call the attention of other professors to the special bearing of their departments upon public health, it is not likely that they will think of making prominent these important items which naturally fall within their particular fields.

The objections to such courses are first, a lack of appropriation. This lack is *per se* evidence of the need for such education. Funds are forthcoming for all causes whose public value is appreciated. It is to-day relatively difficult to get a hearing before the people upon subjects connected with public health. There is beginning to be a change in this regard. We may reasonably expect that ere long endowments will be generally made for the instruction. At present such endowments as are made are for the purpose of investigation. The knowledge of the few investigators and workers has already far surpassed administration, and general appreciation.

The second objection is that the interest of the students is very problematical. This is true, and it can be demonstrated only by trial. The success of the trial will be largely dependent upon the personality and method of the instructors.

It is objected further that there is as yet no demand for such courses. Certainly there is not. The demand cannot precede the appreciation of the need. Because the people do not know that they are in darkness which stunts their own individual growth, they do not call for light. Further, to a very great degree students take without question the courses offered and do not demand something not down on the published schedule.

Again, there are some who oppose this innovation because they do not know how to arrange for credits in this work. This is purely an administrative question. Its answer must be governed largely by the courses offered. To urge this as an objection is a confession of administrative laziness or inefficiency.

Finally, it has been objected that no suitable text-books are available. This is hardly true. Harrington's "Hygiene," Egbert's "Hygiene and Sanitation," or the "Rural Hygiene" of either Ogden or Brewer might serve very well for such use, supplemented with other instruction which a competent instructor might give. It would be a practical impossibility to cover all of the subject in one book at present. If the work is done by recitation, the students might well be expected to do general reading from many sources in the college library. Such reading should include certain portions of constitutional and administrative law, with cases, works on meteorology, climatology, and zoology, for example. The lack of text-books is not therefore a valid objection. If it shall later appear that there is such a deficiency it will unquestionably be filled.

OPEN-AIR SCHOOLS.

By Thomas Wray Grayson, A.M., M.D., Pittsburgh.

To my mind, no conference on the "Conservation of School Children" would be complete without a consideration of open-air or fresh-air schools, for such schools will literally enable children "to have life and to have it more abundantly."

An open-air school is one in which the pupils are kept entirely in the open air, a curtained pavilion or a shed with many windows and doors being used to give to the children the protection necessary from rain, wind and sun, but wide open to the outdoor air on at least one or two sides even in the stormiest weather.

In 1904 the first "open-air recovery school" was started in Germany and now we have many such scattered all over Germany, France and England. In fact, many municipalities have taken up the movement with enthusiasm, and open-air schools now are as much the care of a city's government as public playgrounds, public baths, etc.

Five years ago the first outdoor school was established in this country in Providence, R. I. Boston, New York and Chicago followed soon after. There are now fifty or more scattered over the United States and they are multiplying rapidly; this in spite of the fact that the methods of municipal and educational management in the country make the beginning of any new work like this much more difficult here than in the countries named.

To correct a very common misapprehension in regard to open-air schools, let it be understood that they are *not exclusively* for tubercular pupils. While this movement—especially in America—has been initiated by anti-tuberculosis societies with the idea that this is one of the best ways to fight the "white plague," people soon learn that the little sufferers from anemia, chorea and many other chronic or sub-acute diseases can be benefitted almost as much as the tubercular; and, furthermore, schooling in the open air will keep *well* children healthy, will improve their mentality and in every way be much better for them than the closed school-room.

About one or two per cent. of the children in our public schools are seriously enough affected by tuberculosis or are in some other way definitely enough diseased to warrant their being treated in a sanatorium. In nearly every case a fresh-air sanatorium is what they need, and the work of fresh-air schools shows that the education of these children can go on as usual while their health is being attended to. In these children the open-air school would emphasize the hospital or sanatorium part of the proposition, and might be described as a "Sanatorium School." It would, of course, be the most expensive kind of an open-air school. Carefully recorded observations of living children and autopsy reports show that tuberculosis is much more widely spread than was formerly thought. German observers who have made many post-mortem examinations assert that the majority of children thus examined show signs of tuberculosis, and American physicians who have examined many school children have found twenty per cent. or more affected. Considering that this is but one of the conditions in which open-air schooling would be a great benefit, the great need of such schools can be seen, although of course not all such children need to be in a sanatorium school.

In the next place, many children are not definitely diseased, but are not strong. They are underweight, catch cold readily, are easily tired out, are over-excitable, etc. In these, the results of the fresh-air school are just as brilliant as in the previous class. Weights come up to the normal, hemoglobin increases and pulse rate and temperature become what they should be, and in every way the children approach the standard. The resisting power of the pupils is so improved that they are not subject to "colds" and other such contagious diseases. Attendance at school consequently improves, and—more wonderfully than all—mentality improves with this fresh-air life, so that the pupils are able to maintain their grade with much less study than in the closed school-room. More time can be spent in supervised and unsupervised play, and night work can be dispensed with.

This second class of children would include something like five per cent. of our school children, but why should it not include all of the children who are not definitely diseased, or come under the care of what I have called the Sanatorium School? If experiments in hundreds of cities have shown that children who are not strong are improved physically and mentally in these open-air schools, must we not conclude that with a little extra provision for the comfort through our northern winters, such schools will keep healthy children strong and enable them to do their school work more thoroughly and in better time?

If I had my way, there would be no third division to the subject, for all our schools would be conducted in the open air, or at least be "Open Window" rooms; but until parents and educators will learn how desirable these schools are, we will continue to have closed school-rooms, and for these I wish to plead for better ventilation than we now have.

In open-air schools, warm clothing—often especially made of blanketing—is provided, and sitting-out bags, soap stones, felt boots, mittens, blankets, etc., are used when needed. In some of these schools the children come for breakfast and stay all day, having a warm luncheon and supper provided at the school. In others, they spend the same time as in the public schools, except that the noon-day meal is provided at the school. Cots or steamer chairs are used by those pupils who are found to require an afternoon nap. It is remarked that the children bear the cold much better than adults. When visitors are uncomfortable and teachers and nurses are hardly able to keep warm, the children will be comfortable and happy, with rosy cheeks and warm hands.

The medical results in these schools are surprisingly good. While we can roughly estimate the child's reaction to cold by the color of the cheeks, a surer method—and the one usually adopted in these schools—is to examine a drop of blood and estimate its hemoglobin. In this way, the physicians can see that the oxygen-carrying power of the blood steadily improves with the life in the fresh air. It is also gratifying to notice how the weights come up. A gain of a pound a week is not unusual, but it is a rare thing that the children do not show a more rapid gain than is seen in the normal growing child. One reason for this is of course that the life in the fresh air almost invariably improves the appetite. After one month or two of this life children will eat twice as well as they did before, and the pale, sickly child which had to be coaxed to eat, will be glad to eat almost any food served.

It is surprising what open-air schools will do for nervous children. These little ones are poorly fitted for the battle for life. There may be a tubercular taint at the bottom of the nervousness, but for practical purposes, these pupils are merely nervous. The outdoor life steadies the nerves probably because it builds up the physical condition. Such an excitable child may be injured by the artificial life and the high pressure of the closed schoolroom, so that the mother may be alarmed by the condition of her child at the end of the school day, and may object to the study at night, even pleading for shorter school hours or keeping the child out of school frequently. The open-air school has a tendency to change all this. As the physical condition improves, the nerves become steadier and open-air life makes the required amount of study less of a task and a shorter one. Furthermore, the psychic effect on these children is for good. If the teacher is at all tactful, the child learns that the slight discomfort on cold, stormy days is easily borne when the proper frame of mind is cultivated, and thus the "psychic hardening" which the children undergo, is a valuable part of their education.

While common colds are prevalent among children in our ordinary schools, they are rather unusual among the pupils of fresh-air schools, thus adding another link to the chain of evidence we have that many diseases of the respiratory tract are caused by impure, overheated air. The ordinary contagious diseases of childhood, too, are much less prevalent among these pupils. In such a school in Pittsburgh the past winter the first such disease to make its appearance was tonsilitis, one case, but it was found that this child's mother had kept her home for the last two weeks because she thought the weather was too cold! Another pupil developed chicken-pox from an undiagnosed case in an older sister, but no other case developed in the school. In fact, colds were absent and improvement took place in sickly children in direct proportion to their school attendance, and the mothers who kept their children out of school the coldest days were the few who could not be made to see this.

Educationally, these schools are a great success. In most of them the attendance has been decidedly better than in the ordinary closed school, although they take the sickly, pampered children who are often allowed to stay home when they wish. Most of the children learn to appreciate what is being done for them, and are anxious to get all the benefit possible. In fact, they have been known to object to a vacation.

The fresh air and the improved vitality in nearly every case bring about an improvement in the child's mentality, so that less time is taken up with regular school work, but the children are easily kept up to grade. In many cases, children who have been handicapped by ill health for years and have been struggling along in the ordinary closed school-room, have quickly brightened up in the open-air schools and have become normal, interested and interesting pupils, much to the surprise of their teachers.

In fact, fresh-air schools have been thoroughly tried and educators have come to the conclusion that the proposition is not a medical one, but one of practical teaching. While such a school may call for added resourcefulness on the part of the teacher in managing an ungraded school in all kinds of weather, it makes the actual teaching much easier, for it increases the child's ability to learn by making him more capable of clear thought and awakening his natural desire for knowledge. It has often been noticed by teachers and parents that these children become more orderly and cleaner than in the ordinary school.

Thus we see that the pupils in such schools are benefitted in body and mind. They also take the lesson of hygienic living back to their homes. If these schools are generally adopted, a great good will be done to pupils, teachers and families, and much money will be saved in doctors', nurses' and fuel bills. Many school buildings can then be of simpler and cheaper construction.

These schools have not been given up, so far as I know, in any city that has adopted them. The movement is becoming a recognized part of the public school system. In fact, the time is fast coming when our public schools will be maintaining open-air schools for sickly children, schools for backward children, schools for truants, vocational schools, night schools and other special schools.

This paper may be concluded with the following recommendations:

First, that every public school of any size should have in connection with it a room where children who are not strong can have their health built up with proper medical care and nursing (observation, nourishing food, warm clothing and rest periods) while the education is still being carried on.

Second, that every public school should have many open-air or fresh-air rooms, provided with an unusually large window space, kept open as much as possible, thus giving children who are underweight, anemic or dull mentally a chance to get the good effects of fresh air, which the ordinary school does not supply.

Third, that less heat be forced into our school-rooms, and more of the naturally moistened air, for which we have found no adequate substitute, be admitted.

MEDICAL INSPECTION OF SCHOOLS.[1]

By Edward W. Goodenough, M.D., Waterbury, Conn., Chairman of Committee on Medical Inspection of Schools, Connecticut State Medical Society.

To prevent disease—this, as I understand it, is the purpose of this organization. You are the directors of health and sanitation. Isolation and disinfection following disease still form a large part of your task. If we can kill a snake or remove the poisonous glands before he strikes, he is harmless. Absolute disinfection without destruction, as by fire, is certainly difficult if not impossible. How we search for means which will increase the average individual resistance! In medical inspection of schools, properly carried out, we can give antitoxin for diseases in general without the use of a hypodermic needle. How far is state, city or town government justified in expending money for this purpose?

System is the watchword now in all business. Perpetual motion—the fountain of youth—impossible! yes—but approachable surely. We laugh at the philosopher's stone and transformation of baser metals into gold. Has not standard oil made gold out of coal oil, and how about iron ore under the influence of Pittsburgh and the steel trust? Economy, system and a little water for washing—presto, change, and the impossible is accomplished.

We burn sulphur and we liberate formaldehyde gas. We even use steam or fire. A typhoid carrier, a diphtheria culture breeder, a few chicken-pox cases with continued high temperature and days in bed—our protection goes to the winds.

Life with her anti-vaccination and anti-vivisection does stir us up some and occasionally finds a hole in our armor, but that is the joke of it.

Dr. Chapin, of Providence, finds the weak places and then goes ahead with all his might to fill them up. Professor Fisher writes about conservation of national vitality. A national board of health is coming, but while we wait, Connecticut is fortunate in her state health officials and their efficient secretary. He says medical inspection of schools is a part of the real thing, and he is right. This means education in hygiene; in personal cleanliness. The importance of healthy growth is recognized by competent, well paid medical supervision. Here it is, the fountain of health in youth surely, if not the fountain of youth. We prevent disease by instilling into children through every grammar grade the benefit of fresh, not overheated air, with a clear nose to breathe it through and a clean mouth to masticate their food with, a mouth and naso-pharynx which shall not breed disease germs for their own injury or that of their schoolmates.

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[1] Read before the Health Officers of Connecticut, April 3, 1912.

We are all creatures of habit. A child is more complex than a plant, yet child culture means the application of Burbank methods to the different species of the genus homo. Our schools are the culture beds in which grows our citizenship of wheat and tares. The highest work of plant cultivators is not the freak work. Because of the knowledge obtained by the cultivators of plants we have larger and more perfect grains of wheat, more perfect apples and pears and peaches. We know how to get maples and oaks and pines of the best character. We also know how to make the best use of waste soil, how to make the desert bloom as the rose.

We live in a republic. The children in our schools are our future citizens. If a majority of the children in the schools are properly developed, physically and mentally, we have done our part toward the development of a healthy, normal and therefore a generally happy citizenship. Each individual character is a combination developed out of good and bad habits. Nor do I refer to morality alone. Our bodies are a combination of good and bad habits of physical development, our minds are combinations of good and bad mental development. The earlier we begin, the easier it is to develop good habits.

To get the best fruit from a tree or vine, pruning is often necessary. In this way we remove the overgrowth in leaf and stem, and allow the fruit a larger proportion of the plant nutrition. In children an overgrowth of adenoid tissue in the nose or throat lessens the amount of oxygen which enters the lungs and the amount of blood which nourishes the brain. If not too long delayed, the removal of this overgrowth will allow both lungs and brain their normal food supply. If 10 per cent. of the children of school age require such operations, we surely should see that parents are informed of the fact. The younger a child is, the more easily it is influenced. Every child has ideals and it is one of the functions of school life to elevate and develop these ideals.

Every physician who has much to do with children should become an optimist. We see children who are apparently physically hopeless. Their nutrition is bad, they belong to that class which "the survival of the fittest" would apparently wipe off from the face of the earth. With proper care these children develop rapidly and often become leaders. It is because of this knowledge that we are constantly working for improved physical conditions in the public schools. The open-air school is an outgrowth of this effort. In the school at Bradford, England, where school inspection was early developed, out of sixty children only two had pulmonary tuberculosis. These, of course, had neither cough nor expectoration; tuberculous children with cough and expectoration must attend open-air sanatoria like the one at Wallingford. This distinction should be clearly made.

Children with tuberculous glands or tuberculous bone disease who are not a source of danger to others are subjects for open-air schools. With them, anemic children and those with defective nutrition, are specially benefitted. Such open-air schools can be established in our own yards and such children play with our children with impunity. Constantly kept in a closed room, however, these physical defectives may not only go from bad to worse, but become a menace for this reason to other children in such closed rooms. We have already built in Waterbury an open-air school which I hope will soon be used.

During the two years of my service as medical inspector of the Waterbury schools I reported to parents 1250 cases of adenoids and enlarged tonsils. This is about 10 per cent. of the public school children inspected and included only those cases which showed symptoms requiring operative relief. In 450 cases the obstruction was removed. 200 children obtained glasses for eye defects and a number of others were given special advice and treatment by an oculist. All cases of scabies, favus and ringworm were eliminated from school. All the children in the grammar schools above the first grade were examined by the Waterbury Dental Association for tooth defects, and where such defects were present a chart of the mouth condition was sent to the parent. The use of solutions of lysol or liquor creasol comp. were recommended for head washing and there were less than one-third of the number of pediculosis cases found at the end of my term of service than were found at early examinations. In the worst district, out of some 700 children, the percentage of these cases were reduced from 50 to 8 per cent. For this result the energy of the principals, assisted by the teachers, was largely responsible.

I read that Hartford and New Haven are to have a clean-up day. One of our principals has talked so much to her children about sleeping with open windows that they are much ashamed if necessary to report that their sleeping rooms are not nightly aired. This same principal asked the children to have their big brothers or fathers clean up the cellars and backyards, and in this way much was accomplished for the district. At the last meeting of the Board of Health the persistent overheating of a twenty-seven room building was reported by the Medical Inspector. The month before an effort was made to remedy a poorly lighted first-grade room in another building. You all know how difficult it is to get even an approximate report of cases of measles, whooping cough and chicken-pox or as the Borough of Naugatuck shows even the cases of small-pox. Through the Medical School inspectors and the nurses, a much closer watch is kept on these cases. With a thorough examination and record of each first-grade child and fifth-grade child, we have data which in time can be very valuable. The Medical Supervisor of the future will be an educator. The young children easily influenced will learn by observation the value of fresh air, not overheated, the desirability of cleanliness, the possibility of infection and contagion and therefore the value of isolation. They will learn what foods they should eat, and, among the poorer classes, what foods give the most nourishment at the least expense. All will not follow the advice given or the example set, but enough will do so to materially inprove our citizenship.

I have not discussed the mental defectives although lack of room at Lakeville makes this a serious problem. The time will soon come when every child in this state will be given every opportunity the public school can give for education in physical as well as mental health.

Let me quote from Hogarth his conception of what medical inspection means.

> 1. The state requires a physical census of the children for the discovery of unrecognized defects, partly with a view to the improvement of the national physique, and partly with a view to the preparation of all children for school life. It is also a national duty to arrange for the classification of children according to their mental capacities, and to adopt the educational system to the requirements of the several groups of children, in order to diminish the present economic wastage of misdirected educational efforts.
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> 2. It is the duty of local authorities to protect the individual against communicable disease in school, to supervise school buildings, and to secure healthy surroundings for the school child.
>
> 3. Owing to ignorance, neglect, or apathy on the part of parents, it becomes a requirement of the merest humanity to bring medical aid and special educational methods within reach of the individual child.
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> These aims and ideals can be attained only by the introduction of a system of routine inspection of the children by medical men interested, not only in public health, but also in education.

These paragraphs seem fairly well to cover the subject if we would revise the first paragraph by saying "the State of Connecticut should require" etc.

For two years, 1910–1911, I was Medical Inspector of the schools of Waterbury. As an appointee of the Board of Health I visited the parochial schools as well as the public schools. I also supervised schools in the outside districts which were still under control of District Committees. During thirteen school months I had the assistance of a school nurse. Although an appointee of the Board of Health, I had the unqualified support of the school department, superintendent, principals and teachers. My work was that of a medical supervisor really. Seeing the children only once a month it was necessary for the teachers to emphasize each day the lessons which I tried to give each month in cleanliness and neatness. I found that I could inspect, very superficially, an average of about five thousand children a month. The nurse who assisted me spent most of her time among the families in the different districts in order to see that recommendations for treatment were carried out. This year we have two nurses who are paid $80 a school month each and two doctors who are paid $60 a school month each. Depending upon the districts, a nurse should spend from forty-five to fifty-five hours a week in school work. Under the supervision of a physician much of the detail work which I did can be done well enough by a nurse. There certainly should be a nurse or doctor to do this detail work for each two thousand children or a fraction of two thousand and in all towns of five thousand inhabitants there should be a physician appointed to have medical supervision of the school children. Under his direction should the detail work be done.

The new record cards of our school department are planned in the belief that a physical examination should be made of every child on entering school and that another examination should be made at the end of primary work or at least at some time before the end of the grammar school. This could be done by the supervisor assisted by some of the younger physicians who could give their time to this work during September and October of each year. Where parents prefer to pay their own physician for such examination, the cards can easily be filled out by such physician. With two such examinations, five years apart, we could get a much more intelligent idea of the healthfulness of certain school districts or even of certain school buildings. It was suggested to me by a prominent health official that friction between the health and educational board could be obviated if the doctors and nurses were appointed by a joint committeeof the health and educational boards. Certain it is that medical inspection of schools should bring school department and health department in closer harmony.

I received my early education in a small country school in this state. These schools need some sort of medical supervision. With a medical supervisor of several towns it should not be very difficult at least to have a yearly visit from such a physician and each town could afford a school nurse for a portion or all of the school year.

Public schools are socialistic. We have compulsory education at certain ages. Society thus seeks to protect itself against ignorance. The health board of this state with compulsory quarantine and compulsory vaccination is decidedly socialistic in its protection of the citizens against ignorance or abuse of health laws. If sanitary laws are to be enforced for the public good, why not make education in practical sanitation and hygiene a part of our educational system. In another generation our citizens will show that it was worth while.

THE WELL FED CHILD.

By A. L. Benedict, A.M., M.D., Buffalo, Consultant in Digestive Diseases, City and Columbus Hospitals; Attendant, Mercy Hospital; Editor *Buffalo Medical Journal*; Author of Golden Rules of Dietetics.

While acknowledging to the fullest extent, the importance of eye-strain, adenoids, defective teeth and various other physical handicaps of child life, it may be more than a personal interest that warrants the writer in emphasizing the homely subject of nutrition in the limited sense.

First of all, however, it may be allowable to reiterate the opinion, opposed as it is to modern tendencies, that the prime function of the school is education in the narrow sense of "book larnin." In so far as the public school system undertakes the medical care of children, it undermines the family physician and fosters a socialistic spirit of dependence for which this country is not ripe. To the extent that the school systematizes the play and mechanic ingenuity, scientific spirit and other spontaneous activities of children it creates a breach between child and parent, crushes individuality and initiative and necessarily diminishes the liberty of the child. The tendency to make the school a center of social life has led to the premature development of fraternities with their attendant evils; it has offended both the less fortunately situated and those who claim for themselves and their children, a certain amount of exclusiveness; it leads social life away from natural paths starting with the family. The institution of school luncheons, provision of textbooks, clothing, free excursions or anything else, which should normally be provided by the parent, tends to pauperize, on the one hand, to increase taxation on the other.

These reactionary statements require a qualification that mitigates their severity and modifies their implication. The writer would not have a single one of these modern extensions of the school activity abandoned. If anything, still more advantage should be taken of opportunities afforded by the daily massing together of the child population, to investigate, control and benefit what is not merely an important part of the community but the whole social body in its impressionable stage.

But, whatever is done, should be with a firm appreciation that the school cannot take the place of home life, parental guidance and instruction, existing social, religious and hygienic institutions, nor of the child's spontaneous and free play and work. The educational system should, in everything beyond its primary function and in every encroachment on time beyond the ordinary schedule, question seriously whether some one of the other factors in child development is failing to act. If the failure is due to accident or carelessness, the attention of the parents should be called to the omission. If, either in individual cases or in abnormal masses of population, the child is not receiving proper attention, from inability, of the factor involved, then the municipality or state should step in, tactfully and kindly, but with the full realization that it is supplying amusement, a carpenter's bench, a warm and reasonably well ventilated room, trips into the country, luncheons, instruction in nature, vaccination, dental fillings and what not, for exactly the same reason that exists in the case of an orphan.

To limit this principle to the special subject of this paper, the actual supplying of food, in the school, rests on exactly the same basis as the establishment of a bread line, soup kitchen, milk dispensary or any other donation of food. Of course, no reference is made to the occasional coöperation of parents or children, for the sake of convenience and economy, as when the school is at a considerable distance from the homes; but to the school luncheon established as a matter of philanthropy and furnished free or at a nominal price. Nor, in the present sense, is any reference made to the sale of meals or articles of food, in schools, as a matter of business. The unpleasant fact remains, however, that in certain districts, there exists such a state of poverty or of ignorance and carelessness, or of indifference to children's welfare, that the school luncheon is a necessity. In such cases, we must take the bull by the horns, organize the charity on a working basis and, by no means an unimportant item, make the fact that it is a charity, as little conspicuous as possible. Another matter of importance is that the luncheon should not simply satisfy the appetite but should provide at least a third of the nutriment required daily, properly assorted, wholesome and digestible. Coffee and tea should be barred, and, if soup is used, it should contain plenty of meat and vegetables, rice, etc.; it should be free from foul smelling vegetables; and it should be accompanied by some form of breadstuff.

The lunch counters, conducted on a commercial basis at certain high schools, etc., may be dismissed in a few words. They should, of course, be carefully supervised. The prices charged should be reasonable, and based, not on those appropriate to cafés but of bakeries and markets, bearing in mind that there is, or should be, practically no expense for rent. This item is more important than might, at first sight, appear. Not only do the customers come from families of all means but economy is a very necessary lesson for youths. One of the great problems before us is the general increase in the price of necessities and the item of greatest relative expense and greatest relative increase of cost during recent years for the whole community up to the 5 or 10 per cent. of highest income, is food. The rising generation must have a standard of minimum charges, to guide them in the home-forming stage which for many high school students is only two or three years distant and may, indeed, already be anticipated by assistance to parents. Persons of moderate means are already beginning to view with equanimity, charges for dinners equal to the actual cost of a week's adequate rations, and profits in the sale of eatables five to ten times as great as in the sale of clothing, fuel, light, housing, etc. Foolish pride in allowing such a scale of profit to the producer or the various middle men and in allowing such an increase in the cost to the consumer will tend still further to debase the dollar in purchasing power.

It goes without saying that both food and water should be clean, in the scientific sense of being free from either specific or saprophytic germs or from their previous action, tending to fermentation and putrefaction. It is also plain that the food served should be nutritious and of adequate nutritive content. As a matter of education, standard viands should be listed to show average gross weight, content of various nutritive principles and calories, with tables showing the totals needed daily.

In controlling the bill of fare, the necessity of eating plain, wholesome food, should be borne in mind. At the same time, such control should not be based on mere prejudice. For example, there is no objection to hard boiled eggs, smoked meat, ordinary cheeses, pies, doughnuts, cookies, ice cream, eclairs, Charlotte Russe, etc., provided that they are fresh and properly made. Sugar, as such or incorporated in composite foodstuffs, is a most valuable source of energy, easily digested and entirely wholesome. No one foodstuff or proximate principle should be used to an undue amount and the diet should be properly balanced. Common sense, or rather actual fact, based on food analyses and studies of digestion, should have more weight than the prejudice against articles of food because they are agreeable. Conversely, the prejudice in favor of various roots, bulbs, leaves, stalks, etc., because they are plain, ordinary foods, should not blind us to the fact that some are practically devoid of organic nutrient value, and that the great majority are very low in the scale, although of service as laxatives and antiscorbutics.

It is important both from the standpoint of the medical inspector and of the teacher seeking the explanation of inattention, naughtiness, dulness and failure to keep up with class averages, to remember the experience of many an automobile driver, who has tested his batteries, taken out his carbureter, looked over his pipes for leaks and finally discovered that his gasoline tank was empty. We must not overlook astigmatism, adenoids, tuberculous tendencies, the effects of CO_2, etc., neither must we overlook the fact that much of the inefficiency of school children is due to inadequate nourishment.

Many adults find by experience that they can do best on a very light breakfast although the fact is contradictory to what is known regarding the capacity of the body for storage of nutrients. But for school children, whose physical exertion at play and in walking or running to and from their work, and whose mental application and hours of work exceed that of the majority of adults, a hearty breakfast is necessary. Within the last few months, it has been borne in upon the writer that the average fairly prosperous business man has very short hours, very frequent holidays, very long vacations and that, beyond the very general planning of his business, he does very little actual work. The employee works longer hours but, with a few exceptions, not nearly so long in proportion to his state of development and resistance as the child is not often required to overstrain himself physically and, in whatever kind of work he is engaged, he is, for the most part, repeating the same process with ever-increasing ease of performance whereas the student is daily encountering new and unfamiliar problems.

With the increase of numbers and density of population, and the gradual change in its composition, there is, especially in cities, an increasing number of families too poor to provide adequate food or too ignorant to purchase and prepare it so as to get the ultimate return theoretically possible from the amount actually expended. And with poverty, we often find a callous indifference to children and a tendency to exploit them as wage earners at a too early period. We must remember, too, that for all practical purposes, we have a debased currency, so that an income sufficient at least for the necessities of life a generation ago, may now actually threaten the adequacy of the food supply. In a pitiably large number of cases the failure of children to keep up with their classes is found to be due to the fact that they are hungry. In some cases, direct aid must be given to the family—and in such form that the children shall get the benefit from it—in other cases advice as to choice and preparation of food and insistence upon these points is all that is necessary.

Even among families of considerable means, the capricious appetites of children and lack of personal supervision by parents often leads to practically the same state of mal-nutrition as among the very poor; at least the children go to school with an insufficient breakfast. The use of coffee, tea, and even beer is by no means infrequent. The former seem to be equally in use among poor and well-to-do, in the one case as a cheaper substitute for real food, in the latter as a stimulant in the lack of an appetite. Beer is more commonly used by children among the very poor and recently foreign population. Otherwise, we do not usually find any kind of alcoholic use by children until we reach the stage of wine with meals and a sideboard. Unless in an emergency, no one should indulge in either alcoholics or xanthine beverages till full maturity is reached—if indeed then.

A very practical difficulty is that the school hours are based on a time table which, for many families, has been superseded. The adults want a late and light breakfast, a light luncheon and a hearty dinner at six or seven. Their evening is protracted nearly to the beginning of the next day on the average, and, very naturally, the women at least do not want to rise till about the time that the children are in school. Even if the children go to bed early—and often they do not—it is asking a good deal of them to get up before the family, allow plenty of time for a leisurely breakfast, and for the "stomach to wake up," deny themselves coffee, make a judicious selection of food, and get to school properly charged with nourishment. At noon, the grammar school pupil has to hurry through a meal before the family is ready to eat, often before the best part of the luncheon is fully cooked. On the other hand, the high school student, allowing for the longer single session and the greater average distance, comes home to an equal lack of companionship and a cold, or warmed up assortment of left-overs. And, in both cases, it is usually a luncheon and not the needed dinner. At evening dinner time, the child should have a fairly simple meal. To get it he must, voluntarily or under compulsion, go without the most attractive portions or else must, in order to have the full amount of sleep needed, perpetrate the physiologic blunder of trying to sleep with the nutritive and emunctory organs taxed to their utmost with about half of the liquids, purins, proteids and total nutrients of the 24 hours. During the first year of the high school, the child has to adapt himself to a shifting of the mid-day meal to a point nearly two hours later than his habit. He has a long period of hard mental work after a light meal, followed by a short period of comparative leisure after what his accumulated appetite is apt to make a hearty meal, upon which a still heartier one is imposed with barely time for emptying the stomach. And then, with a full store of material for mental and physical energy, he is expected to remain quietly indoors and go to bed with a full stomach and almost every viscus hard at work; or he is blamed for indulging in the social habits with reference to which the meals are arranged and in which he has the example of his elders. On the other hand, if the long single session of the high school has exceeded the hungry stage, the pupil takes an insufficient luncheon, and there is every excuse for the development of functional disturbances of digestion which so easily pass into organic disease.

We expect the child to exercise initiative, judgment and self-denial in making the best of a meal schedule which the most ingenious planning could scarcely make more inappropriate. If he does so, well and good; if not, he was formerly considered dull or inattentive or bad. At present, we ascribe his condition to various physical defects and faults of hygiene or to heredity, but usually overlook a simple and obvious reason. This should not be considered as in any sense an objection to or failure to appreciate the medical and hygienic importance of the conditions that we are investigating but a plea not to forget the matter of nutrition.

It is always unsatisfactory to propound a problem without offering a solution. But it must be conceded that, in general, we cannot expect the child to exercise prudence, judgment and self-denial greater than that of the average adult. In some way, the school child's regimen must be adapted to his requirements or the community will lose in morbidity, mortality and inefficiency. And the adaptation of the regimen seems to require parental ability and personal attention, even sacrifice of convenience.

TEACHING OF FIRST AID IN SCHOOLS.

By CHARLES A. KINCH, M.D., New York.

The idea of instruction in First Aid to the Injured originated in the brain of Prof. von Esmarch, of the University of Kiel, when he was Surgeon-General of the German Army. He argued that the efficiency of the soldier would be increased, his suffering alleviated and often his life would be saved, if his wounds could be promptly dressed on the field. Accordingly, every man was furnished with a packet sewed into the lining of his coat containing a clean compress, a bandage and a strap for a tourniquet to stay the flow of blood. The results justified the expectations, and after the Franco-Prussian war, he expanded his instructions so as to be useful to railway and steamboat officials and employees in factories and mines. He added chapters on poisons and household emergencies. Good Samaritan Societies were established all over the Empire. The idea was transplanted to England, and engrafted on the St. Johns Ambulance Associations which had been formed to inspire manliness in young men and teach them to save people from drowning. In 1882, a First Aid society was organized in New York City to give this instruction. Recently the American National Red Cross has created a very efficient First Aid department, for instruction in all the large cities of the country, New York being left to the society already established there. The Pullman Company has given the Red Cross a railway car completely equipped with appliances both for giving and teaching First Aid. Many of the western railroads and lately the Pennsylvania have welcomed this instruction. The Bureau of Mines has also made a liberal use of the Pullman First Aid cars. Many classes have been formed in settlements and neighborhood houses. The New York Board of Education regularly includes this subject in its courses of free lectures and a very large number of those attending have submitted to examination and received diplomas. The question of including First Aid in the scheme of public instruction has been broached. The

Boy Scouts and similar organizations of boys all over the country have taken up the matter, all of which leads us to the inquiry: At what age is instruction in First Aid best to be given?

The average boy is content to be in "leading strings" until his tenth or eleventh year. At this age he aspires to be a leader, or at least to be a member of a gang. Altruistic principles do not develop until a couple of years later. Neither is coöperation or team work well done before the thirteenth or fourteenth year. Then the boy realizes that he has a neighbor and he wants to do something for that neighbor. His sufferings appeal to the boy's sympathies. Then also he is able to understand the mechanism of the human body and has acquired a certain amount of dexterity in the use of his own hands and members. And he has attained a measure of stature and strength that make him efficient in rendering prompt aid to the injured.

Of girls, about the same things may be said. They are more capable of serious altrustic thought after the thirteenth year than in their childhood days. And by that physical and mental development better able to comprehend and apply the principles of First Aid.

Nothing in the foregoing is to be construed as discouraging special instruction for imminent needs. But just as correct speech is taught from the earliest days and the study of grammar and rhetoric deferred until riper years, so should instruction in First Aid be fragmentary and adapted to present emergencies in the case of little children and its systematic study be postponed to the third or fourth year of the high school curriculum. In social and settlement work the proper pupils for instruction are to be found in working girls' clubs and young men's classes rather than the junior organizations.

NOTES AND NOTICES.

THE MINNEAPOLIS MEETING.

At the time of this writing, the preparations for the Thirty-eighth annual meeting have so far advanced that only some dire catastrophe can prevent an excellent meeting. In the first place, all points west of Trunk Line territory may obtain the rates quoted for the American Medical Association at any time on or after June 1, being the Summer Excursion rates. In the Trunk Line territory, these rates will prevail for the same dates, but a special ticket will be sold on June 12, 13 and 14 that reduces the price of the ticket through Trunk Line territory, but not beyond. For example, in purchasing a ticket on the 10th of June from Philadelphia, the agent would add a sum to the excursion rate from Pittsburgh or Buffalo to determine the price of the ticket from Philadelphia. On the special dates he would add to the same excursion rate, a smaller sum for the round trip between Philadelphia and Pittsburgh (or Buffalo) and the difference in the price is small, less than ten per cent.

Then the time of the year is favorable for a visit to the nearer Northwest; the Leamington (headquarters) is represented as a particularly comfortable and home-like hostelry; the committee of arrangements seems to be desirous of being the committee of hospitality by brevet; the program equals any ever prepared for the Academy; and there is business of unusual importance that needs to be transacted because of the incorporation of the Academy during the year past. This combination of duty and pleasure should conduce to a large attendance.

* * *

Attention is called to the leading article of this number relating to the Fourth International Congress of School Hygiene, from the pen of the Secretary-General. The Congress is to be held in Buffalo during the last week in August next.

The rules read:

> 4. * * * All persons interested in school hygiene may join as ordinary members of the Congress. Applications for membership should be accom-

panied by a postal order, made out to the Treasurer, for the sum of $5.00 * * *

5. A collective subscription will be allowed for general or municipal bodies, educational institutions or societies and associations. This collective subscription shall give the right of the body represented to send a single delegate who will enjoy all the rights and privileges of an ordinary member.

6. Associate members shall be admitted at half rate ($2.50), with title of associate. The wives and children of ordinary members shall be eligible to associate membership. Associate members shall be entitled to all privileges of regular members, but they may receive no publications nor vote at meetings.

The Treasurer-General is Mr. John H. Lascelles, Vice-President, Marine National Bank, Buffalo, N. Y., while the address of the Secretary-General is at the College of the City of New York, New York City.

* * *

An International Congress for the "Fight against the Deterioration and Adulteration of Foodstuffs" will be held in Ghent on August 1 to 3 of the present year in connection with *l'Exposition Universelle et Internationale de Gard*, which will be open from April thru November, where there will be an exhibit of adulterated and falsified foods. The call states:

> The principal object of our Congress is to give legislative, educational and social indications, with the collaboration of chemists, doctors, manufacturers and consumers.
>
> In short we want to have a social Congress.
>
> The agenda will call for a debate on the great practical problems to be solved in this domain, the real difficulty of which deserves the help and good will of all.

Membership can be obtained by addressing the Secretary, M. Antony Neuckens, Hotel de Ville, Brussels, accompanying the application with a postal order for ten francs, the membership fee.

* * *

At the last annual meeting of the National Association for the Study and Education of Exceptional Children, it was determined to organize the following advisory and auxiliary committees:

I. A medical advisory board.
II. An educational advisory board.
III. A sociologic advisory board.
IV. A general committee for propaganda and finance.
V. A woman's auxiliary committee.

In the same line of increasing the usefulness and influence of the Association, the effort will be made to establish state headquarters in every state in the Union, and to bring into affiliation all organizations that are concerned in some phase of child-welfare or child-rescue work.

* * *

The Post-Graduate courses at McGill University (Medical Department) this year are very attractive. The courses extend between May 26 and June 20.

ACADEMY PERSONALS.

Wilbur, Ray Lyman, was elected an Honorary Vice-President of the National Association for the Study and Education of Exceptional Children, at the last annual meeting held on April 30, 1913.

NECROLOGY.

April 2.	George A. Staples.
April 9.	John Jay Craig.

LITERATURE NOTES

NOTICES.

The Career of Dr. Weaver. By Mrs. Henry Backus. Boston, L. C. Page and Co., 1913. Cloth, pp. 379. Price, $1.25; postpaid, $1.40.

This is a story of the twentieth century physician, his fads, foibles and fancies; his trials and temptations—how to him as to others *facilis descensus Averni*; his aspirations, ideals and victories. Mrs. Backus has made a careful study of *homo medicus* and woven in an interesting story, a picture to the life. Doctors should read this book to get a glimpse of themselves; the "laity," to be helped to understand some of the medical problems of the hour.

We will not deprive our readers of the pleasure of finding the story for themselves by a few quotations:

"It was hard to understand why a man like Bohm had failed to succeed. It might have been that he lacked magnetism, or self-assurance, or a certain professional address which is half the battle, or it may have been due to the cut of his beard, which, instead of being a Vandyke as every one knows a doctor's should be, was inclined to be a fulness under the ears which gave him the appearance of a rubicund brewer."

"For such is the misfortune of the successful practitioner, that when he has acquired a practice, he is overwhelmed with too much of it, and finds himself unable to give it the attention it deserves. In fact, should his reputation grow too big, he degenerates in time to a mere reception committee of one, with a faculty for assorting and ticketing his patients and turning them over to his assistants for the real work of diagnosis and treatment."

"Disease is social not individual, and therefore an economic problem too." "That is one of the reasons why we doctors haven't obtained the place we desire—because our interests are narrow. We haven't shouldered the larger burden with men and they've left us out of their councils accordingly. People are tired of our pills and our patchwork. They want men who will socialize their knowledge, who will help to make the race over."

New and nonofficial Remedies, 1913. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association, Prior to Jan. 1, 1913. Chicago: Press of the American Medical Association, 1913. Cloth, pp. 320. Price, 50 cents; in paper, 25 cents.

Sometimes exception is taken to the methods of the Council on Pharmacy and Chemistry; it would be a cynic's snarl were anything but praise spoken of this Annual or its publishing.

New remedies and new preparations are continually brought to the attention of the profession. Of much of it, without a work of this kind, our knowledge of the remedy would be secured from the eloquence of the detail man and the rhetoric of the literature issued by his house (both excellent in their way, but apt to be biased) and experience—possibly bitter experience. The Council, with painstaking care, endeavors to furnish disinterested information regarding the composition and worth of the preparation. The book should be on the desk of every practiser in the land.

Hormone Therapy is one of the major subjects of the hour. What has been accomplisht, and the greater possibilities concern every physician. The enthusiast may even see an influence on the social condition of mankind in the development of knowledge concerning their use. It is because of the imminent importance of the subject that we call attention to the April number of the *Prescriber* (publisht in 137 George St., Edinburgh, Scotland, price, post-paid, 1s 2d) which is a Hormone number. It presents clearly and concisely an up-to-date view of the subject; at least as up-to-date as is possible with a subject that is constantly developing.

The *Eugenics Review* for April is largely given over to the Eugenics Education Conference, which was held at the University of London on the 1st of March last.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list records the publications received (other than periodicals in exchange) from April 1 to May 15, 1913, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treatng of medico-social questions will be given precedence in the fuller notice.

Bureau of Labor: Bulletin 111, Labor Legislation of 1912. Bulletin 113, Retail Prices, 1890 to December, 1912.

Bureau of Mines: Techincal Paper 40, Metal-Mine Accidents in the United States during the Calendar Year, 1911. Bulletin 52, Ignition of Mine Gases by the Filaments of Incandescent Lamps.

United States Bureau of Education, Bulletin 3, 1913: The Teaching of Modern Languages in the United States.

Nineteenth Census of the United States; 1910: Abstract. Abstract with supplement for Pennsylvania. Volume vi, Agriculture, Alabama-Montana.

Bulletin 12 of the American Institute of Criminal Law and Criminology, April, 1913: Second Report of Committee A.

Thirty-fifth Annual Report of the Department of Public Health, Augusta, Georgia, for the fiscal year ending November 30th, 1912.

Third Annual Report of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease.

Proposed Model Law to Regulate the Hours of Employment for Women in the District of Columbia. Speech of Hon. Andrew J. Peters, of Massachusetts, in the House of Representatives March 1, 1913.

What Can be Done to Better the Race. George W. Gay, M.D., Boston.

The Citizen and the Public Health. A. M. Stimson, Passed Assistant Surgeon, United States Public Health Service.

A National Department of Health and the National League for Medical Freedom; or Organized Medicine *vs.* Organized Quackery. William J. Robinson, M.D., New York City. (Reprint.)

A Study of Heredity in Epilepsy. Everett Flood, A.M., M.D., and Miss Marion Collins, Palmer, Mass. (Reprint.)

The Life Insurance Company as a Dynamic in the Movement for Physical Welfare. Eugene L. Fisk, M.D., New York. (Reprint.)

Why the American Medical Association is Going Backward. (A Critique of the Medical Trust.) G. Frank Lydston, M.D., Chicago.

Metropolitan Life Insurance Company: The Health of the Worker.

Transactions of the Luzerne County Medical Society for the years ending December 31, 1911–1912.

Transactions of the College of Physicians of Philadelphia, Third Series, Vol. xxxiv, 1912.

Eighteenth Annual Report of the John Crerar Library for the year 1912.

INSTITUTIONS OF LEARNING.

California: University of California Publications, Education, April 15, 1913. Inherited Tendencies of Secondary Instruction in the United States. *Colorado:* University of Colorado Studies, x, 1, F. '13; Cat. 1912–13. *Illinois:* Knox College, Cat. 1912–13. University of Chicago, Announcements, xiii, 2, Mr. '13. University of Illinois, Annual Register 1912–13; 26th Report of the Board of Trustees, 1912; Bull. ix, 20, Mr. '12. *Iowa:* Coe College, Courier, May '13. Dubuque German College and Seminary, Our German Work, Ja. '13. Parsons College, Cat. 1912–13. *Kansas:* Ottawa University, Register 1912–13. *Maryland:* St. John's College, Cat. 1912–13. *Michigan:* Hillsdale College, Cat. 1912–13. *Minnesota:* Carleton College, Cat. 1913. *Missouri:* Central College, Nile-Green and Black, May '13. *Nebraska:* University of Nebraska, Agricultural Experiment Station, Bull. 133, 134 and 135. Press Bull. 38, 39, 40. Research Bull 1, 2. *New York:* Barnard College, Announcement 1913–14. Columbia University, Bull. of Information, Ap. 12, 1913, University Bibliography. Syracuse University, Bull. s xiii, 3, F. '13. Medical Number. *North Dakota:* Fargo College, Bull. viii, 4, F. '13. *Ohio:* University of Cincinnati. Record s 1, ix, 3, Ja. '13. *Oregon:* McMinnville College, Annual Cat. 1912–13. *Pennsylvania:* University of Pennsylvania, Cat. School of Medicine 1912–13. Wilson College, Annual Calendar 1912–13. *South Carolina:* Charleston College, Cat. 1912–13. *Virginia:* University of Virginia, Alumni Bull. 3 s, vi, 2, Ap. '13. *Wisconsin:* Milton College, Cat. 1912–13.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. William Seaman Bainbridge, New York; William L. Clark, Philadelphia; William H. Dudley, Los Angeles; William Frick, Kansas City, Mo.; G. Betton Massey (2), Philadelphia; Worthington S. Russell, New York; and Frank R. Starkey, Philadelphia.

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OF THE
American Academy of Medicine.

(Specializing in Medical Sociology.)

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THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments expressed in any paper or article published in the BULLETIN.

LEADING ARTICLE.

MINNEAPOLIS MEETING.

The proceedings of the 38th annual meeting of the Academy will be found on another page. It is the province of this article to give the general impression of the meeting, hoping thereby to make the official transactions more understandable. Professor Shailer Mathews has written a book which he calls "The Church and the Changing Order," and this meeting is an evidence that the changing order also affects the medical profession.

From one view-point, although a technical one, the meeting may be called epoch-making in that the constitution had to be recast to fit it to the charter under which the Academy has recently been incorporated. This fact brought into prominence the early efforts of the Fellows of the Academy to better the educational conditions leading to the medical degree. It was a forlorn hope. The American Medical Association had been endeavoring to bring it about for twenty-five years and the conditions were really worse. One can read between the lines the feeling of desperation and of doubt. Of doubt that the general conditions would ever be improved and of desperation in organizing a society requiring a definite educational standing. Whether *post hoc* or *propter hoc*, the tide turned shortly after the beginning of the efforts of the Academy and now the educational requirements in all the better medical schools are higher than the Academy dared to formulate for its qualifications for admission.

Were this educational campaign the only effort made by the Academy it would now have no duty to perform. This fact was recognized with a feeling of gratitude and not of regret, especially as in furthering the cause of the proper education of the physician other questions relating to the physician and his environment were revealed, opening a limitless field for research. Some of these have been taken up and investigated by the Academy—each succeeding year showing a larger field and greater opportunities for usefulness. There was a general undercurrent of thought, shown also in the discussion, that the efforts of the Academy should now be directed more especially to the investigation of these socio-medical questions, seeking to secure the coöperation of those who are directly interested in the subject. This does not mean the lowering of its educational ideals since the present day graduate of every medical school of the first class possesses the educational equivalent to the Academy's standing.

The Academy is the only organization in existence that investigates all topics included in medical sociology and can thus become a clearing house of all the special societies whether medical or lay.

The papers presented at this meeting—on the Physical Bases of Crime—were of a higher order even than the Academy's average, presenting the results of careful research and extended reading. The scheme of the Program Committee in securing a larger number of papers for the transactions, expecting but a portion of them to be read at the meeting, worked out admirably. The papers read were by those in attendance and the time was fully occupied in this reading with the subsequent discussion. As both papers and discussion will appear in full in the subsequent numbers of the BULLETIN it is not necessary to dilate upon them here.

A plan for the increased usefulness of the Academy was adopted by the appointment of a committee to be known as the Board of Publication under whose direction the Academy will be willing to undertake the publishing and distributing of monografs on subjects germane to the purposes of the Academy, thus enabling an author to have the benefit of the Academy imprimatur. The plan is carefully safeguarded so that abuse of the privilege will not be apt to occur.

Because the laws of Pennsylvania require the officers of a corporation chartered under its laws to be elected in Pennsylvania the new President will not assume office until the beginning of the year 1914.

The Sunday afternoon conference on Western Medicine in Eastern Lands is growing in interest with each succeeding meeting. Although a hot wave spread over Minneapolis with the thermometer at 94° fully 500 people gathered together at three o'clock in the afternoon and all seemed to have been amply repaid for their effort.

Any account of the meeting would be sadly incomplete if it did not mention the abundant hospitality of the Minneapolis Fellows. Nothing could exceed their zeal and effort in preparation, their kindly labors and hospitality during the meeting, and much of the success of the meeting must be attributed to them.

THE PHYSICIAN OF THE FUTURE.[1]

By Ray Lyman Wilbur, M.D., of San Francisco, Cal.

To-day the world is conquered geographically. To-morrow it will be conquered for civilization. The achievement of a healthful Canal Zone is of greater future moment to the human race than the construction of the Panama Canal. The lessons taught there will guide man in his mastery of the most fruitful and yet the most deadly portions of the earth. The Carrolls, the Rosses, and the Gorgases will crown the noble efforts of the Drakes, the Livingstons and the Stanleys. The explorer and the pioneer have blazed the path of man through jungle and over glacier. The preëminent ability of omnivorous man to fight and to vary his food and his external covering has made him King of the animals of the earth. It has made the Earth his. Powder and ball have clinched this supremacy over the larger forms of life. The problem now is the conquest of the minuter forms, the bacteria, the spirochaete and the plasmodia. This is the real field of the physician. The love of spices and fine raiment has pushed the caravans of commerce into the remotest nooks of this great sphere. Commerce has exploited. Development yet remains and the function of the physician is to help to make full development possible.

Even in those portions of the earth longest the home of civilization and civilized man the victory over man's microscopic enemies is far from complete. The typhoid organism, that fearful progeny of filth and neglect, cuts down its thousands in the very heart of civilization. We sneer at the pilgrimages of the Orient to cholera-laden pools and yet watch with indifference the funeral train go by our windows with the victim of polluted food or water. We laugh to scorn the medicine man beating his tom-tom or the Chinese shooting his firecrackers to frighten off the demons of disease and yet growl at the sanitary tax and permit the incompetence and graft of municipal government to sow the seeds of needless death in our very midst. Certainly the field is broad and the harvest great for the physician of the future. The paths are open, the guide posts are up, the fruits of victory are before him. He must meet his responsibility, take the vanguard, lead the enlightened, educate the backward, be patient, courageous and keep his feet firm upon the solid foundation laid by those great scientific minds that have groped into the dark unknown and brought back new truths, the Pasteurs, the Kochs, the Listers and the Ehrlichs.

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[1] Delivered at the 38th annual meeting of the American Academy of Medicine, Minneapolis, June 13, 1913. The President's Address.

David Starr Jordan has said "The world stands aside for the man who knows whither he is going." We must know where we are going. We must see our duty before us and we must be on our way. Medicine cannot lag. It must lead. Every physician must be a leader, not a follower in the advance of the human race. His superior training must mean something in the every-day life of his community. Pills and potions should be but incidentals. Progress and helpfulness should be his watchwords. The duty to the social unit should be greater than to the individual. The neighborhood should be the client as well as the patient. The welfare of the State and of its people should be supreme. This is the goal of our physician of the future, as it is the beacon of many among us to-day.

Disease will always exist. The forces of disintegration are mixed with those of growth at the inception of life. We can control, delay, soften the inevitable death that lies before us all. The physician will always be needed, will always see the glad smile of birth and the dark frown of death. To him will always come the great privilege of confidence and of comfort, the great opportunity to see man as he is, his strength and his weakness both laid bare. An observing friend has said that the great physician touches the heart of people more than the great minister, his is a closer communion, his power of example and his advice are more potent. The great charm of the hard life of the physician lies in this and in his independence. He is at the same time a servant and a prince. His time is at the call of the deserted and the weak, but he takes orders from no one. He is the responsible guide. He has the deciding voice. The physician of the future must not lose these rare privileges. He must not become the creature of the State, the plaything of the politician. He must be the adviser of the State, above all politics and politicians. He must continue to rise or to fall by his own efforts. His position must not become such that society holds him up. In no other field is the chance so great of seeing results from work done or left undone. The individual responsibility must not be merged into the State or into some part of it until the unit is lost. The field of medicine must necessarily be divided up. There should be those true servants of the public, the health officer, the school inspector and the sanitary engineer, also the advisers of the State and the corporation: the specialist of the great hospital and, above all, that sterling guide of the family, the old-type family physician. We must not lose him. He must remain the backbone of the profession.

The family, as the Anglo-Saxon knows it, is the staunch unit of all that is best in civilization. We must fight for its preservation and its independence. In this struggle the family physician will be a firm bulwark. His intimate knowledge of the family, his advice to old and young, his sympathy can never be superseded advantageously by the more highly priced specialist or by an officer of the State.

The automobile and the telephone have done wonders for our profession. Time thus saved permits of more study on the part of all physicians. Physical fatigue need not now be so great in practice as in the years gone by. For those most successful, it often prevented that scholarly advance which is now possible, for all ranks of the profession. The family physician can now do a large volume of work and yet find time to keep his information up to date. The trained nurse has added to the effectiveness of the medical profession and especially of the family physician, she has become the indispensable Lieutenant to the Captain who tries to stay the forces of death.

Need I point to the necessity of sound broad training for the physician of the future and for the inculcation of studious habits, if he is to take the place in society that is rightfully his? No phase of human life exists with which he will not come into contact. He must lead into many new paths. His knowledge must go deep into the foundation of society. Eugenics is a neglected field in the development of the human family. The problem of the prostitute is unsolved. Her foul nest in the bosom of society must be purged. The physician must help to point the way. He must be the counselor of the young, the support of the tried and the tempted and the healer of the weak and the stay of the vicious. Frank, open and untiring must be his warfare here. The childish and futile efforts of segregation must be replaced by education. The social and economic forces that will encourage early and clean marriage must be sought and husbanded. Already the State is calling upon him to protect the innocent wife and the unborn child. The health certificate as a preliminary to marriage is bound to become a requisite as those sure forces of progress that permit the suffrage of women come into their own. Ignorance alone has kept us where we are. The modern press, the modern school will not be silent. Syphilis is already called by name in one of our great weeklies. The physician of the future will feel the shame of the blinded babe and the blasted mind that have their origin in the brothel. The staggering check of "Damaged Goods" by Brieux is to be seen upon our stage, not supplanting, it is true, the ragtime dance and the suggestive song, but at least appearing simultaneously.

The newspaper of to-morrow will speak the truth instead of flaunting in the face of our youth the disgusting, lying advertisement of the dirty quack and his nauseous associate, the patent medicine purveyor. They will reach a level where their pages will be above the luring notice of the abortionist who pays for the chance to hold his bloody fingers before the public through their columns.

The social scourge of alcohol with its wake of woe, sin and incompetence must likewise be met and overcome. We may or may not agree that alcohol is a food, but we can all agree that no other food is the cause of such degradation and debauchery. The question of existing habits and individual rights need not blind the physician of the future while steering his portion of the social machine into safer and saner harbors. Those products of the marriage of the weak and the unfit, of the criminal and of syphilis and of alcohol that fill many of our most splendid governmental buildings, must largely disappear, if the physician of the future meets his duties with the strong arm of trained knowledge and with the patience of the educator. To see that no man shall be insidiously killed by his trade is to be a function of the physician of the future. Business is willing. The physician must show how to prevent. Economic laws are claiming the attention of our legislators. Much of such legislation must be administered from the broad standpoints of medicine.

The physician is becoming a Scientist. He is no longer a dogmatist. The various schools of medicine are in the throes of their final struggle for existence. Only that which is good will survive. Medical education is approaching standardization. In this country, the universities are seeing their responsibility to medicine and are taking hold with a firm hand. To them the Nation must look for the training of the men who will help most in the growth of the social fabric. Their training must be broad, must be moral, must be sound. The universities must unite their forces with those of the State in working out those problems of public health whose solution is still uncertain and in seeking for those now hidden facts that will eventually be uncovered by modern chemistry and bacteriology and made a part of our every-day knowledge.

Shall the State absorb the physician? Shall he become a simple servant of the public or shall he retain that spirit of independence and of responsibility that is his present chief crown? Some of us should become public servants. All of us should do some public service, but as a body, we cannot be either officials or servants. The practice of medicine is a profession, not a trade. Place us under the time bell and we become useless in many of our most important functions. We can unite for higher standards, better ethics, purer ideals, but we cannot strike for shorter or limited hours or less responsibility. To be a member of a profession, means a willingness to work for results, to accomplish the task begun, regardless of time, comfort, effort or reward. That physicians may become public officials and that as such they should care for the public health, the food of tenement babies, and many of the diseases of the poor is desirable, but that all should become so would be disastrous. The family must remain the unit of civilization. The family must have freedom of choice in physicians. The State must not step in. We are already licensed by the State. As time goes by, that will mean increasingly more. The stamp of the state upon a physician will be much more of a guarantee of effectiveness than it is at times to-day. The people will soon see more clearly that the great part played by the physician now and to *be* played by him in the many phases of human life and society demand the fullest of preparations and the soundest of intellects.

The physician of the future has before him the great joy of meeting great unsolved problems. He must be brave and learned and full of hope. He must retain the priceless heritage of personality that has come down to him, that spirit of independence that is his by every right, but he must likewise bend to the public need regardless of self. He must join with all of the social forces that can be assisted by his knowledge. The way is stony, but the future is bright and we can have full faith that the physician of the future will not only see his duty, but will meet it, with that hope and courage that knows no obstacles and that recognizes no defeat.

ON THE EXCLUSION OF IMMIGRANTS AFFECTED WITH DISEASES OF THE SKIN.[1]

By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, Consulting Physician to the New York Hospital, etc.

In a democratic country the laws are made by the people, or their representatives, for the good of the community: they are supposed to be for the greatest good of the greatest number, and individuals, or even a large minority must sometimes seem to suffer unjustly by their enforcement. On the other hand, laws or regulations are sometimes enacted, wrongfully it is true, which inure to the benefit of the few, with greater or less injury to the many, as is instanced and illustrated in the present agitation in regard to the Tariff laws of our country.

Among the most interesting modern enactments, both by local law-makers and by the general government, are those relating to the protection of life and health, both of individuals and communities, and the securing to the greatest per cent. of the population, not only life and liberty, but health and happiness, and freedom from unnecessary burdens.

Hence for some years our government has enacted laws relative to the entrance to this country of those who would escape their miserable condition in other lands, and enjoy the opportunities and possibilities which are presented here of rising in life, even to the highest positions. But the law-makers have naturally recognized that many undesirable persons may seek our shores, and restrictions are made along many lines; and it is highly questionable if these restrictions should not be made even more severe, and enforced even more absolutely than they are: that our land may be peopled with those who shall serve only the best interests of true freedom, moral character, and material prosperity.

One of the lines of restriction has long been that of health and of physical and mental condition, with the idea of excluding both those who may do harm by the infection of others, and those whose complaints may make them a burden on the community: for these two reasons alone can patients with diseases of the skin be excluded, and along these two lines we will consider our subject.

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[1] Read at the thirty-seventh annual meeting of the American Academy of Medicine, Atlantic City, June 1, 1912.

First, in regard to those who may do harm by the infection of others. Aside from the acute infectious diseases with skin manifestations, small-pox, scarlet fever, and measles, which are well cared for under our present quarantine laws and regulations, there are relatively few diseases of the skin which are contagious to such a degree as to call for exclusion: indeed it may almost be said that there are hardly any that should be excluded for that cause alone, if adequate treatment could surely be given without expense to the community.

Syphilis would easily rank first among the diseases which might endanger others seriously, and yet I do not know of any proposal to exclude those thus affected. In its earlier stages, and untreated, we know that a single case has in times past caused veritable epidemics in rural communities, especially in Europe, before the disease was recognized and more or less arrested by efficient treatment; and undoubtedly even in these latter days individual syphilitic immigrants of low station or character have communicated the disease to many others, who in turn have further propagated this ofttimes distressing malady. It is, therefore, high time that, as venereal diseases are claiming the attention of local health departments, so our immigration authorities should take cognizance of syphilis, in its earlier stages at least, as a disease which may menace the life and health of the community.

The vegetable parasitic diseases, *ringworm* and *favus*, are certainly contagious, and are often the source of untold trouble when once they get a foothold in a community, and especially in schools and asylums; therefore our local and national health authorities are very properly taking action against them, and are quite justified in excluding patients thus affected, both on this ground and on that of a burden to the community, as will be mentioned later.

Scabies is, of course, very contagious, and commonly affects several in a family, besides occasionally infecting others. But under proper treatment this is such a short-lived affair that exclusion of such patients could not be justifiable.

Leprosy is a disease which often causes great excitement in various parts of the country, because of its supposed contagious character, and is very properly excluded, because of the distress and fear which its presence excites, but mainly because of the burden and expense which the patient is likely to entail on the community: for wide experience and knowledge of the disease, as it exists all over the world, has shown that it is not contagious in the ordinary sense of the term, indeed, as far as I know it has never been shown that leprosy has ever been contracted from another person affected therewith. This is a large subject, and this is not the place to discuss it, but I may merely say that having studied the disease very particularly and its literature for over forty years, and having handled hundreds of cases in this country and around the world, I make the above statement with complete assurance. I may add that during the last thirty years we have had very many cases of true leprosy in the New York Skin and Cancer Hospital in the wards, side by side with other patients, often for long periods of time, and never give a thought to the possibility of contagions.

Lupus and *local tuberculosis* of the skin might perhaps be excluded on the ground of their tuberculotic origin, but I think this would not be sanctioned by competent dermatological opinion, as practically there is no possible danger of their being communicated to others: but it might be wise to exclude them on account of their rebelliousness and the likelihood of the patient becoming a burden on the community.

The *hook-worm* disease, or uncinariasis, which is often first recognized by lesions on the feet and exposed portions of the body, should also be excluded, as it appears to have been imported from warmer climates; and it is known that it spreads more or less rapidly, not by active contagion but by means of fecal dejections, when these are not properly cared for.

Finally, the very rare disease *mycosis fungoides*, if recognized, should be excluded, as it is mildly contagious, and practically incurable, and a poorer patient would pretty certainly require prolonged hospital care before the disease terminated fatally.

This completes the list of diseases which should be considered under the first division of our subject. But the second division is equally important; for, as our government excludes those who are mentally and morally unfit, and those who for various reasons may become a burden on the community, so it is quite proper that we should refuse to admit those who have affections of the skin which are likely to render them unfit for active and profitable life, and which will probably require prolonged and possibly permanent care, at an expense to the community, and are therefore undesirable immigrants. The diseases which are to be mentioned under this heading, however, are not so striking as those mentioned, but for sociological reasons should be considered.

Pellagra has excited considerable attention of late in this country, as it has probably appeared only recently among us, and from reports is quite prevalent in certain sections of the country; the skin symptoms are fairly distinctive, and if it had been long here it would have attracted attention earlier, for cases of it are very rarely seen in New York. While the true cause of the malady is yet uncertain, and it has never been shown to be contagious, it should be properly excluded for this second reason, namely, that when a person has once been affected the disease is liable to recur and to render the sufferer more or less useless as a producer, and probably more or less a burden on the community.

Cancer and *sarcoma* may well come under the ban of exclusion, for the reason that sooner or later the patient may require medical and surgical care, entailing expense and thus become a burden to others. The same is true of *rhinoscleroma*, which has always been seen in this country among those coming from Southern Europe, and which is practically incurable.

Certain cases of true *prurigo* are also occasionally imported, and while it is not always so serious as to incapacitate the one affected, it is pretty sure to require much medical attention, which is generally of comparatively little avail as to a complete cure.

Chronic *non-parasitic sycosis*, a pus disease, while not actively contagious might also be rightly excluded, as those coming with it to our dispensaries seldom give the proper attention to it to have it cured, and often become unfitted for work and quite a burden, even requiring prolonged hospital treatment.

Ringworm and *favus* of the scalp have been already spoken of in regard to their contagious character, but should be also excluded for this second reason, namely, that when at all severe or chronic they become a very great burden on the public. In the Hospital on Randall's Island, New York City has from three to five hundred children thus affected, costing the city thousands of dollars yearly; and many of them remain there months or even years before they can be discharged cured, as evidenced by the microscope, and that in spite of very faithful and intelligent care at the hands of competent physicians and nurses.

We have recently had an interesting and instructive illustration of the wisdom of excluding ringworm of the scalp, at the New York Skin and Cancer Hospital, where we always have many of these cases. Three Russian children were stopped at Ellis Island because of this trouble, and after much effort on the part of their relatives it was agreed not to deport them if they would be placed under bond in our hospital until cured. The bond was given and we had them there some months under most vigorous treatment, and, I am almost ashamed to say, without effecting a cure, as repeated microscopic examination demonstrated. Unfortunately the hospital has never been able to collect from the relatives the board promised to be paid, amounting to over $500, which did not represent at all the actual *pro rata* cost to the hospital, and this cost may have to come out of our funds collected from charitable donors. Finally the children were taken back to Ellis Island, on an order from the department, and I think were deported.

In this connection I may mention the case of a private patient who was sent to me from the island of Jamaica, to be treated for epithelioma of the nose. As the disease had always been called lupus at home, he was stopped by the immigration authorities and I received a pitiful letter from him, saying that he and his wife would have to return to Jamaica, as lupus was not admitted to this country. On my appealing to my personal friend Mr. Watchorn, who was then Commissioner of Immigration, he said that if the disease was lupus he could not help me, as he could only carry out the law. From the history and description of the case which I had previously received, I was able to convince the Commissioner that the case was not one of lupus but was epithelioma, and the patient was allowed to land, and, when the disease had yielded to the X-ray, he went home a happy man.

This brings us to the final remark that there are a host of other diseases appearing on the skin which are perfectly innocent and should not be hindrances to immigration, but which, as in the latter case, may be mistaken for more troublesome complaints. As far as I know, however, the immigration officials are very careful, and in the prolonged and repeated examinations before final deportation, I believe that the laws are faithfully interpreted and intelligently carried out. It would be, however, more advantageous for the community if patients seriously affected with some of the other more chronic and rebellious diseases of the skin, who later crowd our dispensaries and hospitals, could also be excluded; for they do really form quite a burden on the charitable work of the community: thus, there are many with extensive *eczema*, *psonasis*, *lichen planus*, etc., who are really never cured, as they wander from one institution to another, and, largely through their own stupidity, are more or less incapacitated from steady work.

In closing, it may be interesting to mention an acute skin affection, which so often develops on the ship, from the incidents of the voyage, that it has often received from some of us the name of *morbus immigrantium*. This is an acute *erythema multiforme*, which sometimes attains a great severity, with much inflammation and great bullae, induced by the bad air and crowding in the vessel, and by the constipation which is such a common feature among immigrants. It is, however, a perfectly harmless, non-contagious affair, which under exactly correct treatment readily subsides and need not be the source of further trouble.

531 Madison Ave.

DISCUSSION.

Dr. Woods Hutchinson, New York:

Our foreign-born population is being digested more rapidly now than ever before. The most essentially foreign populations are in the regions of the Pennsylvania Dutch, Milwaukee, and the middle Western States where English is scarcely spoken. In the New York slums we hear very little of the English language spoken, but they turn over the entire population of that region once in seven years. The actual percentage of our foreign body is the same now as when the first census was taken. It was a little higher in 1815. Then it was 14; now it is 12. I have gone to Ellis Island and the East Side slums and most of the men could enter the regular military service at once. Fifty years ago the immigrants were coming from the North of Europe. Now we get more from the South, because the North of Europe is becoming Americanized and the people are being kept at home. When we come to study the character of the people of Southern Europe I believe we shall come to the conclusion that all men are much the same and that good material from the descendants of the South is not bad stuff to work up in our national life.

As to the difference between the qualities now and then from the criminal and defective point of view, I believe we are getting a higher general average of both physical condition and of intelligence now than at any previous time.

We have been told that the foreign population raises the death rate. Who makes the profit out of that? The man who employs them at starvation prices and makes a profit out of their blood. The high death rate of our foreign-born is not something that we ought to be proud of. It is a disgrace that we should allow these people to bear the hardships that they do. No one ever struck a keener or stronger note in regard to the immigrant and labor than Rudyard Kipling in his "Sons of Martha" in which he comments upon the way in which the sons of Martha are treated in comparison with the sons of Mary.

Dr. W. G. Magill, New York:

I should like to ask whether the increased infant mortality was a factor in the report of the high death rate among the foreign-born?

Dr. J. T. Searcy, Tuscaloosa, Ala.:

I think the high death rate among infants of the foreign-born population would rather add to the increased death rate than take from it because the birth rate is also higher than among the American-born.

Dr. Magill:

It has been a matter of great interest to go to Ellis Island and to note the expert service of the Marine Corps in making examinations. This is probably superior to any increased inspection which would be offered by the State Service. It is really marvelous and well worth the attention of any one interested in the matter to see and know the accuracy with which such inspection is carried on.

Mrs. Florence Kelley, New York:

I was impressed with one parenthetical expression, that "we cannot afford to have the Austrian music if we must take as its accompaniment the spectacle of the barefoot woman worker." My mind has been burdened with the question: "Why is it that the barefoot woman worker in the United States is not the immigrant, but the native American woman of several generations, employed by the native American employer in that part of the country in which there is no immigration whatever." This is among the cotton mill workers of Georgia, North and South Carolina, among whom there are no Negroes or immigrants employed. When Henry James came back to this country after twenty years in England he wrote amusingly of the good shoes and the good dentistry that he saw everywhere. He missed the broken shoes and the "snags, tusks and fangs" to which he was accustomed. He was in the cities in which the immigrants settle, New York, Boston, Philadelphia. He did not go South. The barefoot woman worker is our American product.

With regard to illiteracy, why is it that the Commissioners of Education of New York and of the Federal government unite in reiterating this statement that illiteracy is also our native product? We have good labor laws where the immigrants are thick. Georgia, which has virtually no immigrants, has no restriction on the employment of American children in mills. The same has been true of South Carolina though the conditions are a little better now. North Carolina has no compulsory education, nor are any of the requirements enforced for the protection of working children. The fact remains that our illiteracy is where our immigrants are not. Our child labor legislation is either missing or bad where our immigrants are not. Why is that?

Dr. C. L. Stevens, Athens, Pa.:

In anything that I say I do not wish to seem to reflect upon any of the papers because I do not believe that the papers given in this city this week and next will prove to be any more valuable, classical or interesting than the papers we have had this morning. I simply want to make a practical suggestion impressed by the papers this morning. The suggestion was thrown out by one of the speakers that the examinations by the two different departments served as a check upon poor or inaccurate work. I think that the papers and the discussions have rather suggested the need of a consolidation of these agencies into one central bureau or department. My experience, both as a worker under others, and as a superintendent of others, has proved that where responsibility is divided between two individuals or between two authorities, it lessens efficiency and increases cost and inaccuracy. I am sure that if this work could be under one department instead of being scattered under several we should have even more efficient work and at less cost.

Dr. Davis, closing:

In regard to the effect of the infant mortality upon the high mortality of the foreign population, the Boston rates have been reckoned by age periods, so that the point mentioned would not have bearing in this instance.

The nativity of the father has been eliminated in the statistics, because the population given out by the Census Bureau is only by mother nativity. There is no special reason why population figures could not be tabulated by father nativity.

Dr. Magill:

I want to express my appreciation of all the papers that I have heard. I have particular interest in the paper of Dr. Doty referring to the education of health officers. It has been my bitter experience. Nothing in our work presents more difficulties than the untrained health officer. It would seem to be the most important requirement in this country to provide for the selection and training of the health officer. That is what I alluded to yesterday in the question of the training of the medical profession. It seems to me that it is the duty of the members of this Academy to insist now upon education at this point. Dr. Doty has described the progress of the quarantine. The real danger is of infectious disease getting beyond the quarantine and infecting the small localities. The danger comes then because the disease is not recognized. In a case of cholera we had a health officer who did not know the disease with which he was dealing. We had an official health officer who was recognized by the municipal authorities but who was afraid to cross the sidewalk to go into the house. I think it is our duty to insist upon the education of the health officer.

Dr. Edward Jackson, Denver:

A few weeks ago I talked with the physician who has responsible charge of the exclusion of trachoma from Porto Rico. He said that trachoma was now practically absent from Porto Rico. There are a few centers of infection, but quite limited and easily dealt with. They have no trouble, under the law, in dealing with immigrants from Europe, or other portions of the West Indies. But the almost impossible problem for them is what to do with people who come from the United States, whom they cannot exclude because of trachoma, although it is a menace, because it is an endemic disease in many different localities in this country. Of what importance is it to exclude two thousand immigrants for trachoma, with fifty thousand people or more, in a single State, who are likely to spread trachoma? In the Southern part of Illinois—which is also called Egypt—and through Kentucky and all through the Southwest, it is one of the most common of diseases. It is common among the Indians on the reservations. About 90 per cent. of all the Indians on some reservations are affected. We have passed the time, as Dr. Doty has pointed out, when disease is to be stopped by a cordon at the margin of the country. The time has come when the same recognition, and the same efficient measures for dealing with contagious diseases of all sorts are to be adopted throughout the country, as are adopted now in some parts of the interior. The only agency to bring this about is a public health department which is not interested simply with the borders of the country; which is not merely a marine hospital service, but a department that is interested in the health administration of the whole country.

Dr. M. P. E. Groszmann, Plainfield, N. J.:

Three points interested me especially: (1) We find that the Health Department of the Quarantine Station in New York harbor is dealing with one set of communicable diseases, and the medical inspectors at Ellis Island are dealing with another set. Then comes the Immigration Commission which decides finally. My question is: What is the relation of the Quarantine Station to the health inspection at Ellis Island? Would it not be desirable to combine these two investigation agencies under a common management and system? (2) It was stated both this morning and this afternoon with very much clearness that there is a large morbidity and mortality rate among our immigrants. It was also shown that the rate is higher here than it is in the home country of the people coming to our shore. The Italians and Irish have at home a smaller morbidity and mortality rate. We have also learnt that these immigrants are here confronted with a great many drawbacks and sufferings, at any rate with new conditions. There occurs to me an observation from my own experience which may throw some light on the situation. You may know that I am working with the problem of the atypical child. Of these children there are two classes as to their physical resistance. Many, when removed from their home environment and brought under the rational influence of our institution, at once pick up and show a physical and mental improvement. They have certain physical endowments and a sufficient amount of vitality not only to endure the change of environment but to respond immediately to it. There is, however, another class who respond in the opposite way. When first removed to our environment they show a distinct decline in their physical condition, in spite of the better hygienic conditions and the greater and more systematic care. I have often been wondering why it should be, and why these children should be such a disappointment. The only explanation I have to offer is this: while they were living in their home environment they had developed a set of habits of self-adjustment to the life they were leading which sustained them to a certain degree in spite of inherent weakness. It was like a system of props keeping them up. As soon as they were transplanted to another educational climate these props broke down, and the first thing you observe is the clear cropping out of their inherent defects. May it not be the same process with many of the immigrants who show this peculiar deterioration after landing here? While their home conditions were not any better than those they enter into here—perhaps worse—they had become adjusted to them. Here they have to accustom themselves to an entirely new set of life conditions. Their accustomed props fall away under them and their native lack of power of resistance makes them collapse. (3) The matter of civilization levels raises this question: To what civilization level do those American employers belong who so sacrifice the health and life of their immigrant employees that it is evident they have no idea of the sanctity of human life and happiness at all? Are they primitives? Are they savages? Are they true Americans? What are we going to do about educating them so that *they* may become really civilized citizens of this enlightened republic? Which class is the greater problem of such social education, the poor abused immigrant, or the wealthy American misemployer?

Dr. DeLancey, Rochester, Buffalo:

The remarks of Dr. Groszmann anticipate somewhat my own. For the benefit of the industrial centers, for the benefit of the immigrant and therefore for the benefit of our whole population we must not only instruct the medical profession, but the people who employ the immigrants. They must be instructed in humanity, not only in the prevention of disease, and they must have this brought home to them in a very vigorous manner. That is one thing that will help us.

I would also strongly second Dr. Knopf's remarks upon the development of phthisiphobia. It seems to me that the people have so taken hold of tuberculosis that there is no place for the poor tuberculosis person. In Buffalo we are attempting to enlarge our facilities for caring for advanced tuberculosis. The hospital is there—we simply wished to enlarge it. As a result of our efforts the whole mass of people of the neighborhood have protested before the board of supervisors against enlarging the hospital because of the serious danger of spreading tuberculosis. This is what we have to instruct people in, is that tuberculosis in not dangerous in the way smallpox is.

I was also interested in Dr. Wile's paper in regard to midwifery. About twenty-five years ago our Erie County Medical Society introduced a law which was the first law, so far as I know, in New York State qualifying midwives to practise. That was because we had a large number of German midwives in Buffalo—it has since become a Polish city. Midwifery practice is going on to some extent. Midwives are licensed in Buffalo only under examination. The standard I do not know because I have not been working in that line in recent years.

I also wanted to speak upon infectious diseases and the training of people to be health officers. Recently in Buffalo we had one of the best health officers, Dr. Ernest Wende. He did magnificent work and had as assistant Dr. Fronczack who filled out his term of office. Then the question came up that there should be some one appointed afterwards. Great pressure was brought upon the Mayor to appoint a physician who absolutely knew no more about public health than a first-year medical student. He had been a rather unknown practitioner, working chiefly in midwifery, and because he was a personal friend of one of the aldermen and his family physician, the most tremendous pressure was brought to have him appointed as our health commissioner. Luckily it did not go through, and Dr. Fronczack who had been working with Dr. Wende was appointed. If we had men trained, from whose ranks only, health officers could be appointed it would be much better. I feel strongly that we ought to have some such system established. There has been within the last three years passed by the Regents of the University of New York State a requirement for the teaching of public health in the medical schools, and that I hope will be a nucleus from which great good will grow.

Dr. Woods Hutchinson:

I rise to say one word in support of what has already been said by Drs. Groszmann, Rochester and Jackson, that while it is of immense importance that we should keep up our standard of physical and mental fitness in our immigrants, as a matter of fact that is being fairly well preserved, thanks to the department of our Marine Hospital Service. I have seen them at work on both sides of the Atlantic. We have now officials at a number of the important ports of embarkation in Europe. The class of immigrants which we get is a very decent class, physically, mentally and morally.

I would also emphasize the fact that we might take the beam out of our own eye, before attempting to take the mote out of our brother's. In the southern part of Italy I found region after region where tuberculosis was almost entirely unknown until one of the citizens went to America, got sick and came back to die. There are many things that happen to the immigrant after he gets into this country worse than anything he brings into the country. Nearly 10 per cent. of these immigrants disappear within a few years. Some of them go to Pittsburgh and we kill about 50,000 a year. That is the price we pay for our wonderful progress. The stress brought to bear upon the young immigrant for two years after coming to this country is exceedingly severe and damaging.

We need a higher standard of training among the medical profession in the care of public health. We are not training the men who can take these positions. We are getting the confidence of the public as we never had before, but we must live up to this confidence—we must train our young men who are coming into the profession.

Dr. Searcy:

We in the South used to be terribly alarmed about the yellow fever epidemic. Every town was quarantined against the next one. Business was arrested. Word was sent out that no trade could come from the different coast and gulf cities until they had quarantine regulations. The back country sentiment had influence on domestic and foreign quarantine and sanitation everywhere. It was made in this way just as much a business to carry out quarantine and sanitation as to do any other work. The ports of our country became commercially interested in the matter. Whenever you get a back country interested for its own safety, the education of the coast towns is accomplished—financially, faster than any other way.

Mrs. Kelley:

In the class for mentally deficient in the school nearest where I live in New York City, there is an unhappy little boy who has been in this country more than three years, who is mentally deficient, and mute, and infected with active syphilis which is perfectly visible to the naked eye. The school examiner and other physicians have seen it. If he had been caught before he landed, he would have been separated from his family and sent back to Russia, but he cannot be excluded from the public schools because that is not a reportable disease. Generally, parents of the feeble-minded are most assiduous in sending their children to school because of the relief from their care, so these children are usually regular at school. It seems disproportionate, that if that little boy had been detected at Ellis Island he would have been sent back to the tender mercies of the Russian government, but the children in his class are undefended because this is not a reportable disease. If he had tuberculosis he could be sent to a physician, but at the present time he is absolutely free.

Dr. Knopf:

Within the last few weeks we have included syphilis and gonorrhoea as reportable diseases in New York.

Dr. Wile:

According to the authority of the health department two years ago, if any one would complain of or report a child having contagious venereal disease he would be excluded, so that the health medical inspector is not fully conversant with the possibilities of his office.

Dr. G. A. Hare, Fresno, Cal.:

I was impressed with the difference in the death rate among the Irish in this country and in their native land. I was also impressed with the paucity of the data upon which these statements were made. I regard the handling of our immigrants as one of the greatest problems with which this nation has to deal. In my mind the question is one that goes a good ways toward making for the instability of our government. Would it not be possible in the interest of more accurate statistics to have upon our death reports not only the birthplace and nationality of the immigrant or the individual, but the length of time which such individual has been resident in this country. If it be true that some of these nationalities do not find themselves able to live in this country half so long as they do in their home countries, there is a definite reason for it. It might afford us some means for ferreting out the reason. I can see no reason for the statement that the Russian, Irish and Italian come to this country and that the Irish succumbs in half the time the Italian succumbs. Could we not have the length of residence in this country in our reports so that in five years we could have accurate data?

Dr. Rochester:

In connection to what was said about having in our statistics the length of time immigrants have been in this country, I would include the statement of where the parents were born. In regard to the comparison of the death rates of Irishmen in Ireland and in this country, the gentlemen gave us the death rates occurring in Boston and in Ireland, but the death rates in Dublin and in Boston were much the same, the statistics being within one or two figures of each other.

Dr. Bertha C. Downing, Worcester, Mass.:

This discussion recalls to me many an hour I have spent at Ellis Island watching the immigrants, and I cannot help feeling that as able as the medical men are who examine them, they have yet to know the high-grade feeble-minded person who lands on our shore. I studied medicine that I might know the feeble-minded child. As you know we have hundreds and thousands in our schools in the United States. Abnormal, nervous children who might be said to be two steps biologically back of the feeble-minded if given scientific care are savable. These make the parents of the feeble-minded and insane as Nordau shows.

I would ask the American Academy of Medicine to see if something cannot be done so that the high-grade feeble-minded individual as he lands on this shore may be recognized and sent back. We have the Binet-Simon tests but *do* they tell the feeble-minded child? An X-ray picture of the hand reveals a condition diagnostic of all grades of feeble-minded children: a too early ossification of the wrist and hand bones; as the degree of ossification so is the degree of feeble-mindedness. I have collected two hundred and fifty congenital cases which show this with but two exceptions, and these were probably errors which point to the fact that these two were not congenital cases. This is a comparatively simple test and should be tried out at our ports of entry.

Dr. Groszmann:

Children who are of the so-called "high-grade feeble-minded" type, or who are "subnormal," or "atypical," have recently been much under discussion. Those of us who have a very searching study of the matter find ourselves sometimes puzzled if we are asked to assign a child to one of these groups. There are indeed children who seem to be entirely normal and yet turn out to be very abnormal; and many children who are thought feeble-minded have shown to possess hidden qualities which lifted them under training to higher levels. Accurate tests and sometimes a long observation is needed to make the decision. And in fact, we have as yet no absolutely reliable tests to apply. The problem is still in need of much study. It seems to me impossible to expect the physicians who examine the immigrant children in the entering port to say with any degree of accuracy that this or that child is feeble-minded, after the cursory examination which they are privileged to make.

Regarding what Dr. Downing said of the Rotch test, I will say that this is by no means conclusive, although it is helpful if taken together with other tests. Investigation has found that, if taken alone, it may lead to error. It must be checked off by a number of other tests which cannot be made without long observation. I thoroughly agree with Dr. Downing that we must find a method of determining feeble-mindedness as we are getting into our country too many of those whose mentality is unstable. But the method is not as yet clearly evolved. We need coöperation in finding conclusive methods and tests.

Dr. Knopf, closing:

I believe von Pirquet's cutaneous test with Koch's tuberculin is valuable in children under five years of age, but it is of no value in adults or in older children. If in a child under five the tuberculin reacts it is reasonable to suppose that the child has tuberculosis. It might be desirable that all children under five coming to this country be tested with the von Pirquet method. It is a simple affair, and the presence of tuberculosis can be demonstrated with fair accuracy within 24 to 48 hours.

I believe there should be a certain standard of qualification for public health officers. Our best medical schools have arranged or are arranging a special course for public health work, and some are giving the degree of Doctor of Public Health.

My own paper has not been attacked and I have not had to defend it. I see some Marine Hospital Service officers here and no one seems to disagree with the statement that it would be a wise thing for each country to look after its tuberculous patients at home and that then we would have fewer to take care of here. Leaving my own paper of course out of consideration, I have never heard any better papers in my life than those read this afternoon on the immigration problem. I sincerely hope that the proceedings of this session may be reprinted in special form and transmitted to the President and the members of his Cabinet and the heads of the Marine Hospital Service so that they may see what we have to suggest in the line of improvement in medical inspection of immigrants. But what I hope above all is that this report will show the President and his Cabinet the urgent need of the establishment of a health department. I say advisedly a "department" and not a "bureau;" I mean a department with a chief having a seat in the Cabinet. I have just returned from the West where I met many medical men of eminence, and all assured me that in that section of the country medical men and all intelligent lay people demand the establishment of such a department. You know, of course, what it would mean to our profession and the public; it would mean the decrease of epidemic and endemic diseases, more just medical and social legislation, less industrial diseases, pure medicines and pure food.

Dr. Wile, closing:

It seems to me, as stated before, the question is not so much what the immigrant is doing to us, as what are we doing to the immigrant? This would be emphasized if we considered the health aspect of the immigrants as they land and after a period of years geared up to our industrial machinery or subjected to the unhygienic living conditions concomitant with inadequate wages. The health question may be studied nearer home to realize our responsibilities for the health of immigrants. We have permitted the noble Indian to be decimated by tuberculosis. We have allowed our American negroes to become victims of contagious diseases, as well as industrial and social diseases without taking a moment's thought as to what we have been doing to them. The source of danger from the immigrant is largely due to the diseases they have gotten from the various laxities of conditions within this country. The immigrant *per se* is not a menace.

The United States Commissioner of Immigration in his last report has laid great stress on the large number of feeble-minded children not recognized and makes a plea for better facilities for their study. But no system of organization will ever make it possible for immigration officials to recognize and exclude the various types of mental defectives. In the English system of health inspection two officers are provided to do the work which we require of one man. There is a sanitary health officer and a medical health officer. Each has his own sphere of activity but their coöperation is essential and constant.

We have a few courses termed preventive medicine in several of our medical schools as University of Pennsylvania, Harvard, Washington University but we have nothing corresponding to the public health course as it exists in England. A man must be an M.D. in England to be allowed to try for a D.P.H. degree. He is required to have a post-graduate training followed by six months active practice under the supervision of the health officer of a town of over fifty thousand inhabitants before doing actual work as a Doctor of Public Health on his own responsibility. Abroad stress is placed upon the education of the people and exploitation is not tolerated among civilized communities. If immigrants come to this country they have to be educated and then protected until they are capable of participating in our life with a knowledge of their civic health duties. This same requisite of education, however, appertains to our own American-born citizens.

We do not know how many people are born in this country and we therefore have no reliable statistics, except for 53 per cent. of the people of the United States. We do not know how many people die, nor when, nor where. The basis of civic statistics—what Dr. Hurty calls "the bookkeeping of the nation"—depends upon a knowledge of the number of births within our territorial limits. Let every effort be made to secure adequate legislation to insure the proper registration of births and then it will be possible to construct statistics, slowly but with certainty, that will be comparable with the remarkable figures available in Great Britain, Germany, Norway, and Sweden. The birth rate must be ascertained—the death rate then becomes understandable. The morbidity rate may possibly be demonstrated after the lapse of many years.

REPORT OF THE COMMITTEE ON THE TEACHING OF HYGIENE AND PREVENTIVE MEDICINE IN MEDICAL SCHOOLS.

Mr. President and Gentlemen:

Your committee will report first on what is being done in the department of Hygiene and Preventive Medicine in the Medical Schools of Class A; secondly, we will deduce conclusions concerning what is considered a competent course for students in the regular course in Medicine, and, thirdly, discuss this field of work as a specialty and the necessary preparation for it.

I.

To ascertain the nature and scope of the work now being done, the following questionnaire was sent to every college in Class A.

"Please indicate as fully as possible answers to the following questions:

I. Systematic Course—Lectures and Recitations.

How much time do you give to the following subjects:

(*a*) Organization of Public Health Work. Hours...
(*b*) The function of Municipal, County, State and National Laboratories. Hours...
(*c*) Infectious diseases. Hours...
(*d*) Medical Inspection of Public Schools. Hours...
(*e*) Quarantine and disinfection. Hours...
(*f*) Methods of protecting employees against accidents, fire, and so-called industrial diseases. Hours...
(*g*) Methods pursued in management of epidemics. Hours...
(*h*) Examination of water, location and care of water supplies. Hours...
(*i*) Methods of sewage and garbage disposal. Hours...
(*j*) Local, state and federal methods of food inspection. Hours...
(*k*) Collection and uses of statistics. Hours...
(*l*) Building, plumbing, lighting, heating and ventilation inspection. Hours...
(*m*) Military and Naval sanitation. Hours...
(*n*) Personal hygiene. Hours...
(*o*) Modes of infection. Hours...
(*p*) Insect borne diseases. Hours...
(*q*) Prophylaxis in communicable and malignant diseases. Hours...
(*r*) Heredity. Hours...
(*s*) Immunity. Hours...
(*t*) Resuscitation. Hours...
(*u*) Total number of hours given to this work. Hours...

II. CLINICAL AND FIELD WORK.

What facilities have you for instruction in the following subjects, and how much time do your students give to the work?

(*a*) Laboratory work as carried on in Municipal and State Laboratories, including examinations of sewage, water, ice, milk and air and diagnostic bacteriological examination. Hours...

(*b*) Clinical work on infectious cases, as diagnosis, vaccination, use of antitoxins, etc. Hours...

(*c*) Medical inspection of public schools. Hours...

(*d*) Fumigation and disinfection. Hours...

(*e*) Sewage and garbage disposal. Hours...

(*f*) Building inspection, street cleaning. Hours...

(*g*) Inspection of production and distribution of milk and other foods, cold storage. Hours...

(*h*) Statistics. Hours...

III. Do you require a text-book? If so, whose?

IV. In what year of the course is this subject given?

V. Is there any phase of this subject on which, by location or other circumstance, your department lays special emphasis?

VI. What is your official title?

VII. Remarks:

It is realized that this questionnaire is not easily answered categorically. But because a course in Hygiene and Sanitation, by whatever name it may be designated, is recognized by State Boards of Medical Examiners as an independent subject for examination, and to reach all schools in this class, it seemed necessary to outline some such questionnaire. In its preparation the Committee had the help of men recognized as authorities in this subject in different parts of the country.

Answers were received from the following medical schools:

Albany
Bellevue
Buffalo
California, University of
Chicago University
Cincinnati
Columbia
Cornell
Harvard

Hopkins, Johns
Kansas
Louisville
Michigan
Minnesota
Northwestern University
New York Homeopathic
Pennsylvania, University of
Pittsburgh, University of
Physicians and Surgeons, College of, Ill.
St. Louis
Stanford, Leland, Jr.
Syracuse
Texas
Tulane
University College of Medicine, Va.
Virginia, University of
Western Reserve
Yale

The answers were all full and contained valuable data. Several writers mentioned the difficulty of adapting their classification and arrangement of subjects to those of the questionnaire. There was some opportunity for misunderstanding in reporting the hours given to the several subdivisions of the course and in some instances all the hours given to bacteriology in the regular course were put down, while it was expected that only bacteriological differential diagnosis work would be listed.

From the replies it is evident that all the colleges reporting have a systematic course with lectures and that several have considerable practical work.

The average number of hours reported as given to the systematic course by the colleges answering this specifically is fifty hours. This large average is due to the fact that one college reported 150 hours (Cincinnati), another 90 (Albany), another 66 (Buffalo), another 64 (Chicago). The average number of hours in the systematic course reported by the colleges other than these is about thirty-five.

Most of the topics specified receive some attention, though the amount of time varies considerably. The reasons for this are, first, because of locality, certain subjects seem to require especial study—as, for example, tropical diseases at Tulane— and, second, because there is not unanimity concerning the relative importance of the topics mentioned in the questionnaire, as, for example, but three report upon Resuscitation, but five on Heredity, four on Military and Naval Sanitation, and but eight on the Organization of Public Health work.

In three schools, *viz.*, those at Cincinnati, Louisville and Syracuse, there is complete co-operation with the Department of Public Health of a municipality and the course is in charge of a man who has a position in the city Health Department and other men in the department are clinical or laboratory instructors, or take a part of the systematic course. In these schools the practical and field work is obligatory.

Cincinnati reports 240 hours given to this work in thirty-two days.

Louisville reports that senior students in groups of six are sent to the office of the Department of Public Health for four hours a day for one week, "where they take an active part in all the work of the department."

Syracuse reports ninety hours of practical work for each senior in the mornings of five weeks. The practical work is done in the municipal laboratories and hospitals and in field work with various officers in the department of health. Seven mornings are devoted to laboratory examination of sewage, water, ice, milk and air, and to bacteriological differential diagnosis. Six mornings are devoted to clinical work in infectious diseases in the City Hospital for Contagious Diseases where the student serves as a clinical clerk and is for that time a unit in the hospital system, or in clinical differential diagnosis in cases visited by the city physician. Five mornings are spent in the medical inspection of public schools. Three mornings in quarantine, fumigation and disinfection, two mornings in the inspection of the disposal of sewage and garbage. Four mornings are devoted to the production and distribution of milk, the inspection of meat and other foods and to cold storage, and finally, two mornings are given to the Bureau of Statistics.

Bellevue's practical work is voluntary and not considered desirable in the regular course for the degree of M.D.

Buffalo reports 29 hours of practical clinical work in infectious diseases.

Columbia does not consider practical work desirable in the undergraduate course, but "indicates where the students may study detailed methods if they care to pursue public health work as a special calling."

Cornell reports sixty hours in laboratory examinations and in clinical work in infectious diseases but has no inspection or field work.

Voluntary excursions for the inspection of the activities of municipal and state departments of public health are conducted by *Harvard.*

Johns Hopkins reports sixty hours of laboratory work and "two years of clinical work in infectious diseases," evidently meaning that in the two years of clinical work the transmissible diseases encountered are made use of for instruction, as indeed they are in every school. "Every Saturday is given to inspection of water sheds, filtration plants, model dairies, pasteurization plants, municipal, state and federal laboratories of hygiene." This is believed to be the first course of the kind in the country.

Northwestern tells students where the public works are and advises them to visit them, but does not follow up the work.

Tulane reports 144 hours of clinical and field work. "Under laboratory work especial attention is paid to mosquito work and to diagnosis of pathogenic protozoa. In the senior year students have additional laboratory and clinical work in Tropical Medicine."

Western Reserve "requires a thesis on some assigned subject in Preventive Medicine which is read before the class and discussed. Each year part of the theses are based on the current reports of contagious diseases in Cleveland and are presented in a sort of symposium, first before the class, later before the medical society by the same students."

Several replies refer to the desirability of practical laboratory, clinical and field work, but express regret that no satisfactory arrangement for such co-operative courses have yet been made with the local health department. Some say that it is a question whether such work should be demanded in an already overcrowded curriculum, and a few question the value of such work for those in the regular medical course.

In the report to the Council on Education of the American Medical Association, in 1909, of the Committee of One Hundred on a Medical Curriculum the course in Hygiene and Public Health is carefully discussesd. Specific recommendation under twenty-two heads are made. The course, as boiled down, covers 120 hours, while the articulation with this course of the courses in bacteriology, pathology, internal medicine, pediatrics, chemistry and dietetics is arranged for and emphasis is put on the importance of special bacteriological differential diagnosis and clinical work in infectious diseases and a large amount of inspection under proper leaders.

II.

It is to be understood, of course, that in every college almost every department must touch upon some phase of the subject of hygiene, sanitation, preventive medicine and public health and that particularly in physiology personal hygiene is taught, in bacteriology and pathology the etiology and prophylaxis of infectious diseases receive attention, in physiological chemistry and pharmacology the question of pure foods and pure drugs must be discussed, and that in the systematic courses in medicine, surgery, obstetrics, pediatrics, psychiatry and in the various specialties preventive measures receive consideration. In such courses very many of the topics listed are legitimately and of necessity considered. This should be encouraged and the necessity for such work should be emphasized, particularly in the courses conducted by specialists. But this is not enough. There must be recognized in every college a Department of Preventive Medicine and Hygiene, the course in which shall review and correlate the knowledge acquired in the various departments and put it to the laboratory test of practical bacteriological, clinical and field experience. If hospitals under college control and with well equipped laboratories for diagnosis are considered essential for the proper teaching of clinical medicine and surgery (and that is conceded), it is certainly as necessary for the college to have the use of all the means used by a municipality for the preservation of health and for the prevention and control of contagious and communicable diseases.

We have had full experience with the difficulties presented by an overloaded curriculum, but they should not be insurmountable. If it be the first duty of a college to fit its graduates to care for the people entrusted to them, that object must be kept constantly in view. The object in anatomy is not to make an anatomist: a lifetime is not too long for that. The same is true in every fundamental laboratory subject, as it is in medicine, in surgery and in all the surgical specialties. But no student should leave a college without mastering the essentials of every one of the fundamental subjects of medicine. To do this best the laboratory method has been carried forward into the clinical years, and it is most essential that it be recognized in this the most important subject of them all.

To fit our students best to assume such responsibility, we must recognize that to-day the greatest emphasis is put upon the preservation of health and the prevention and control of disease, and, while no college should attempt, in the regular course, to make expert sanitarians and public health officers, every college should graduate men who are sufficiently educated in these subjects to co-operate intelligently with health officers, to estimate accurately local health conditions, to advise soundly those consulting them on these conditions, and to aid in educating the people in health matters. If a curriculum for the student in the regular course is built up on these principles, there will be room enough for a competent course in Preventive Medicine and Hygiene.

We believe that the majority of our correspondents agree that such a course should include a systematic lecture course of not less than thirty hours, in which the head of the department shall review and correlate the knowledge of bacteriology, pathology, hygiene and preventive measures which have been learned in other departments, and in which lectures on the most important subjects shall be given by experts from federal, state and municipal departments of Public Health. Among these lectures it is urged by many that especial attention should be given to a clear exposition of the health laws and to the relation of physicians to the department of Public Health and to the importance of statistics. Besides the laboratory work and the clinical work done in the regular course, it is considered that at least eighty-five hours of special laboratory, clinical and field work under competent instructors should be required.

In the olden times Hygiene was classed with Physiology and was given in the second year. Four of our correspondents still give it in the second year when a man is not supposed to know much about diseases, preventable or otherwise. Eleven give it in the third year, and thirteen in the fourth year and some in both. Your committee believes that this course should crown the work of the four years and that therefore it should be given in the senior year and that the systematic lectures should be given in the second semester.

There is a variety of names used to designate the course. The State Boards of Examiners for License to Practice Medicine are not unanimous in the designation of this course. The course outlined in the curriculum prepared by the Council on Education of the American Medical Association is called "Hygiene and Public Health." The colleges in New York State use the term "Hygiene and Sanitation," as it was first named by the State Board of Examiners. Harvard calls it "Preventive Medicine and Hygiene." It would be well for the National Federation of State Medical Examiners to adopt a uniform term for this course and for colleges to recognize their decision.

The head of the department is variously designated by the colleges replying. It seems to your committee that in whatever department the man at the head of this course does his special work, he should be designated as "Director of the department of so-and-so," for there should be recognized a department head.

III.

Our country has been slow in making adequate provision for the conservation of the health of her citizens. Except in a few instances the health office of a community has been given out as a political plum. There has been no tenure of office and no pay commensurate with the service that should be required. Because of this there has been no inducement to men of the best ability to choose this work as a specialty. But it seems as if this order of things was near its end. New York State has just passed a bill reorganizing the Health Department of the entire state and the Governor has signed the bill. By the provisions of this bill it will necessary to have trained men who give their entire time to this work in all health districts. Michigan has a bill before the legislature demanding that all cities of 18,000 and over shall have trained health officers who shall devote all their energies to such service. Similar demands are under discussion in other states. This indicates that public opinion is being formulated and that the time is near when all of the states will demand that human health, the biggest asset of every state, shall be safeguarded. When that day comes, public health service will be the most alluring field for special work. Special provisions for the training of such men must be made and University Medical Schools must be ready for it.

Several schools already have admirable courses well adapted to fit a graduate in medicine for the position of health officer. By the time there is a legitimate demand for the multiplication of such facilities, the experience of Harvard, of Pennsylvania, of Johns Hopkins and of others shall be available for the guidance of those universities having both medical schools and schools of engineering which are but waiting for the demand to inaugurate special post-graduate courses in hygiene and public health.

Respectfully submitted,

John L. Heffron,
Thos. H. Arbuthnot,
Gardner T. Swartz.

June 13, 1913.

REPORT OF THE DELEGATE TO THE NINTH NATIONAL CONFERENCE ON MEDICAL EDUCATION AND LEGISLATION.

The Conference on Medical Education consisted chiefly of the reports of the Chairman and Secretary, in regard to the work already accomplished and the pending laws which were believed to be about to pass in several states, raising the requirements for medical education and licensure.

The Chairman's and Secretary's reports indicated that the requirements for graduation and medical licensure proposed by the Council had been so commonly approved and generally accepted that there is every indication and hope that they would be the established requirements of the United States. This side of the work was considered accomplished.

The new work, or the further work to be accomplished in the opinion of the Council seems to be the requirement of a fifth year for the medical degree, this fifth year to be a practical one, spent as an interne in an accredited hospital.

The proposition is that hospitals all over the country shall be graded, after the same manner and with the same relative standard as the gradation of the medical colleges, report of which by the way was presented to the meeting; that is to say, the hospitals would be graded in A, B and C Classes. Those of the A and B class should be approved, those of the C class should not receive approbation until they should be brought up to the standard. The Carnegie Foundation again has volunteered to assist in this work.

In another year, therefore, it will be probable that hospitals all over the country will have been placed in their proper grades. The Council will recommend the establishment of this curriculum of five years, with the understanding, that the last, fifth year, shall be spent as an interne in an accredited hospital.

In the Conference on Medical Legislation the discussion trended especially towards the suggestion of this fifth year requirement of the curriculum and the teaching of the grade schools and the high schools with reference to uniformity of requirements and course for the final degree.

Lay educators suggested that the main difficulty in regard to preparation for the medical degree was not with the high schools, but with the secondary schools. The average course is adapted to children more or less deficient; it was suggested that these secondary schools be so modified that the grades could be apportioned to those who could advance more rapidly than to slower ones. In this way a bright, young man, who wishes to study medicine, could complete his course in a period of less than ten years, where now it sometimes requires twelve years.

It seems to your delegate that with the establishment of the required course of at least one year in the applied sciences in addition to the standard high school course for medical education, and the establishment of five years, the last year a practical one in a hospital as a proper medical training, will weed out the unfit, and young men who are not thoroughly determined in their desires to become physicians, and it will make the profession in the United States as fully equipped as in any other nation of the world.

This curriculum will, however, make it very difficult for many hospitals to obtain internes and will result in the necessity of paying small salaries to these young physicians.

This year the meetings of the Council on Medical Education, which occurred on Monday, February 24th, was followed the next day, namely, Tuesday, by the Council on Medical Legislation, and on this same day, the Conference of State Examining Boards took place.

These two important meetings occurred on the same day and the same hours. It was an unfortunate arrangement, as it detracted from the attendance in both meetings and distracted the attention of delegates so that they missed some of the good things in both conferences.

As the State Licensing Boards are assuming more and more importance, as their legislative powers are increased, it was natural that this meeting, namely, the meeting of the conference of the State Licensing Boards, should attract the greater attendance and interest.

One or two of the pending laws, especially the one which is generally commended, namely, that of Wisconsin, are modelled apparently very much upon the lines of the Pennsylvania law.

The delegate believes that these conferences of the State Licensing Boards, next to that of the Council on Medical Education, will be the most important ones of the American National Conferences, and they will lead probably to something like sufficient uniformity among the State Licensing acts to bring about genuine reciprocity between the states, and will act as influences to bring about the standardization of medical education by proper statutes in the various states.

Respectfully submitted,
W. L. Estes,
Delegate.

DISCUSSION.

Dr. Henry L. Staples, Minneapolis:

Sanitary science takes up the destruction, and the prevention of the dissemination of pathogenic bacteria. Under the leadership of the French it has been demonstrated that over one-half of our diseases are preventable and due to pathogenic germs. The importance of this has not made the impression upon us as physicians that it should. When I came here twenty-five years ago the health office was under the suspicion of being open to the highest bidder. We are coming to the period when we shall demand educated men who can devote their entire time to this work without fear or favor. It is well to look back to Sydenham's descriptions of the plague, at a time when 8,000 died in one week. Smallpox killed one-quarter of the people of Europe in the eighteenth century. We have advanced. Malarial and yellow fevers, with many others, have been put on a scientific basis since the student days of many of us. A department of public health which we shall have at Washington, despite the objection of the League of Medical Freedom, and besides a department in the medical schools, there should be a school of sanitary science under the Federal Government where men can be educated who can be drawn upon for our teaching institutions and for service in cases of epidemics like cerebrospinal meningitis, poliomyelitis and cholera. I think the time is not far distant when the Government will take active measures regarding venereal diseases for the protection of our homes, the preservation of our race, to prevent the overcrowding of our hospitals with insane patients, etc. Suitable restrictions will be placed about these cases as are now enforced regarding other preventable diseases.

Dr. George A. Hare, Fresno, Cal.:

This report submitted by Dr. Heffron is a valuable paper and deserving of serious discussion. I feel like expressing my admiration of it most heartily and wish I could so emphasize it as to make its importance manifest.

Two or three things deserve special emphasis. One, the proposition of teaching sanitary science in medical schools, is not to make experts but for the definite purpose of making every practitioner of medicine intelligent for preventive medicine. If there is anything to-day that is sad to me it is that the profession, as a whole, is not more awake to the sense of responsibility to their fellow men. Superficial training is doubtless the cause in most instances. Two, the lack of coöperation of the health officers. We had in California an outbreak of rabies. Our health officer took vigorous steps and our county health officer occupied the unique position as an outspoken opponent of attempting to prevent the spreading of the disease; and the newspapers rather ridiculed the idea of its prevention, often denying that it existed on the Coast. Three, the necessity of the physician to make himself a force for preventive measures even if it does bring him a little notoriety. Our province is the prevention of human suffering. If the public press is used in a proper manner to this end we would not fear public opinion.

Dr. Helen C. Putnam, Providence:

There are two sides from which to view the undergraduate medical course and the teaching of sanitary science: (1) The professional idea of what it ought to be; (2) the people's side, what they want and need. There is a difference of opinion as to whether all the time shall be given to lectures or whether the majority of time shall be given to field work and clinical and laboratory work. The decision must be in favor of the latter course, because of what is being done in public education in colleges and normal schools. I have never trusted to the questionnaire to get information regarding the teaching of hygiene but have always gone to the institution. Two years ago I selected from 50 catalogs of normal schools and colleges 28 that were particularly promising concerning the excellence of their instruction in hygiene and sanitation. I visited these and 12 more schools and found perhaps seven or eight of the 40 were really worth the visiting but the others were not. What they called teaching hygiene and sanitation you could not possibly consider as such. In six or seven good ones I found the best hygiene taught in sociology and home economics. In both these departments they were doing field work. In some colleges the students went out to study the sewage system of the city and made careful reports as intelligent people, but could not do so from the point of view of the civil engineer. They studied the milk supply of the city, following it to the farm and dairy. They studied the infant mortality by wards in the city and inspected the houses. They studied nationalities in wards in connection with infant mortality. These are some but not all of the lines of actual work that lay people are doing. If they are doing this, it is imperative that in our medical schools for turning out intelligent physicians we must do more.

Dr. S. D. Risley, Philadelphia:

It seems to me, as the author said, adequate instruction in Sanitary Science should be the crowning of the medical course. All these things, however, have an evolution. As an analogy to the subject under discussion I can illustrate by what has happened in the study of ophthalmology in this country. Some fifteen or twenty years ago a great many men throughout this entire country began to realize the importance of knowing something about the treatment of diseases of the eye applied at the various medical educational institutions of the country for instruction, beyond that received in their medical course. They came to our clinics and simply looked on. Gradually they began to say, "Why don't you teach us?" Then we had classes in which we gave six weeks' courses of clinical with some didactic instruction. The organized Polyclinic gave certificates for having taken this six weeks' instruction. I finally objected to the issue of such certificates unless the efficiency of the recipient were proved by examination which should be obligatory.

The importance of this subject is growing upon us apace. It is, as the Doctor said, the crowning of our medical course, the prevention of disease rather than the cure of disease. Just as we have technical schools, we might have post-graduate schools of medical technology, taking up municipal sanitation and hygiene, and the application of our knowledge on this subject. I am convinced that there should be a post-graduate school with a degree of Doctor of Medicine *cum laude* or something of the sort which shall make these people specialists in the application of sanitary science in municipalities. I do not see how this can be crowded into our already overcrowded medical course without forcing something of importance out or adding another year. I therefore think it should come as instruction in special schools of technology or as a special course in established schools and universities.

Dr. John L. Heffron, closing:

The third division of the report is necessarily brief. Because there is not a demand for full time, thoroughly educated health officers, it did not seem worth while to attempt to go into the details of a course or courses which University Medical Schools should establish for the preparation of such men. Several practical suggestions were made by correspondents. There were some who favored a course of a single year and it was suggested that a student desiring to specialize in public health work be permitted to devote himself exclusively to the work in the fifth clinical year, now demanded by Minnesota and advocated by several schools. The majority of correspondents, however, consider that a three years' course leading to the degree of Doctor of Public Health would not be too much to demand of those who enter this service. So it seems a wise conclusion to wait and take advantage of the accumulating experience of Harvard and the other schools now giving a complete course for health officers.

TRANSACTIONS.

BALL ROOM, LEAMINGTON HOTEL,
MINNEAPOLIS, MINN., June 13, 1913.

The Academy met in executive session at 2 P.M. with the President, Dr. Ray Lyman Wilbur, in the chair. Dr. Horace Newhart, the chairman of the Committee on Local Arrangements, exprest a very cordial welcome to the Academy and reported the arrangements that had been made for its comfort. He requested that the session adjourn promptly at four o'clock that afternoon in order that the Academy may accept the invitation of the Committee for an automobile ride around the city. On motion, it was resolved to adjourn at four o'clock and accept the invitation of the Committee, thanking it for the same.

In the absence of Dr. Sheldon, the chairman of the Committee on Program, the Secretary reported the printed program with the change that the report of the Committee to Investigate the Teaching of Hygiene in Public Schools be made the first order of business to-morrow morning before the opening of the symposium instead of being made this afternoon. The report of the Committee was accepted.

On motion, the minutes of the last meeting were approved as printed in the Bulletin.

The Council made a verbal report thru the Secretary, reserving its formal report until a subsequent session.

The Secretary reported that, according to the resolution adopted at the Atlantic City meeting last year, those members who are suspended for non-payment of dues are to be reported to the Academy and the names publisht in the Bulletin. This list was read to the Council and it was resolved to recommend to the Academy to postpone the reading of the names until the next annual meeting, since possibly some checks have been received at the Secretary's office after his departure for the meeting. If so, these names need not be publisht as being suspended. The recommendation of the Council was, on motion, adopted.

The Council received a number of resignations, most of them growing out of the change in the constitution which requires every one to pay dues. The Council recommended their acceptance. The list was read and on motion the resignations were accepted.

The Committee on Admission to Fellowship reported that it examined the applications for membership and had submitted its report to the Council. On motion the report was accepted. The Secretary presented the names of those who had been recommended by the Committee on Membership and approved by the Council as follows:

John M. Banister, Omaha, Neb.
Woodson H. Taulbee, Maysville, Ky.
Elizabeth E. Clark, Germantown, Pa.
Joseph P. McMahon, Milwaukee, Wis.
Thomas Benjamin Moore, Butte, Mont.
Enoch Marvin Porter, Fort Benton, Mont.
Michael M. Leahy, Anaconda, Mont.
Alfred Baker Spalding, San Francisco, Cal.
T. M. Williams, Palo Alto, Cal.
Lawrence Lee Iseman, Chicago.
Walter Prentice Bowers, Boston.
William Sharp Lindsay, Topeka, Kans.
William Henry Condit, Minneapolis.
H. E. Robertson, Minneapolis.
Albert Eugene Johann, Minneapolis.
Angus W. Morrison, Minneapolis.
Walter J. Marclay, Minneapolis.

On motion, the Secretary was authorized to cast the ballot for the Academy in favor of their election, which was done, and they were declared to be elected.

The President appointed the following committees:

On Auditing—Drs. G. A. Hare, A. R. Craig and H. L. Staples.

On Nominations—Drs. Helen C. Putnam, John L. Heffron and S. D. Risley.

The report of the Treasurer was read, showing a balance on hand at the close of the fiscal year of $97.94. On motion, the report was referred to the Auditing Committee.

The Committee on Incorporation presented the following report:

Mr. President and Fellows of the American Academy of Medicine:

Your Committee on Incorporation desires to report that it has obeyed the instructions of the Academy given it last year at Atlantic City and has incorporated the Academy under the general laws of Pennsylvania by a decree of the Court of Northampton County, signed February 3, 1913. The committee desires to express its appreciation of the interest taken by David Maynard Bachman, Esq., of the Northampton County Bar, the attorney retained by the committee. Thru Mr. Bachman's efforts, the Court decided the appointment of a Master to take testimony and report the character of the proposed association, not to be necessary. In consequence the expenses for securing the charter, including the attorney's fee (which is fixt by the Fee Bill), amounts to only forty-five dollars and seventy-five cents ($45.75).

A copy of the charter is attached to this report. It is essentially that sought for by the act of Congress, the modifications being made at Mr. Bachman's suggestion to conform to Pennsylvania law and practice. It will require the amendment to the old constitution by substituting the charter in its place, and the subsequent amendment of the by-laws to include some items now incorporated in the constitution. As there have been revised by-laws properly presented and made unfinisht business for the past three years, in order that, when a charter was secured, the constitutional provisions for amendment should have been complied with, it is in your power to make these alterations at this meeting.

Respectfully submitted,

CHARLES McINTIRE,
JOHN B. ROBERTS,
W. L. ESTES,
Committee.

It was, on motion, received.

The report of the committee to present a revision of the Constitution and By-laws was called for and was presented by the Secretary. On suggestion of the chair, the report of the Committee was referred to a committee to report at the adjourned meeting on Monday morning. The committee consisted of Drs. Charles McIntire, Edward Jackson and J. L. Heffron.

The Committee on Transportation reported, thru its chairman, Dr. Henry L. Staples, that as the summer excursion rates went into effect on the first of June no further concessions would be made by the railroads. The report was, on motion, received.

The Committee to Increase the Membership in the Academy reported thru the President, *cx officio* chairman, that a number of applications had been made thru the efforts of the Committee. On motion, the report was received.

The Committee on the mid-year meeting at Lehigh University, in April, 1912, presented its final report. On motion, the report was received and adopted.

REPORT OF COMMITTEE ON CONFERENCE AT LEHIGH UNIVERSITY IN 1912.

The committee having in charge the mid-year Conference at Lehigh University, in April, 1912, made a partial report at the meeting at Atlantic City and requested to be continued in order that it might finish its work and publish the transactions. It now desires to present its final report.

There were received for registration fees $284.10. These fees included a copy of the transactions. This amount includes some large subscriptions made by the friends of the University in Bethlehem and all these who subscribed also received copies of the transactions proportionate to the amount contributed. Since then there have been received from the sale of the transactions $204.25. In addition to this a guarantee fund was subscribed to make good any deficit, and of this $45.50 was paid in. There have been expended for the publicity campaign, the expenses at the meeting, and publishing the volume $517.49. Additional copies have been purchast but not paid for amounting to $54.50, making the total amount of cash sales and amounts still due $588.35. This will permit us to refund the guarantee fund advanced and to place the balance in the treasury of the Academy, which will amount to $24.36 if all the debtors pay.

This exhibit shows how these popular mid-year conferences can be made to pay their way were there a fund to draw upon to pay the early expenses. There are still a number of volumes of the transactions on hand for which there will probably be a further demand. We base our opinion upon the facts that during the year 26 volumes of the transactions of the Conference on Prevention of Infant Mortality have been sold, altho the Conference was held in 1909.

Respectfully submitted,
CHARLES MCINTIRE,
W. L. ESTES,
R. H. BECK,
H. C. POHL,
JOHN EDGAR FRETZ,
EDGAR M. GREEN,
Committee.

At this point, the Academy arose from executive session and proceeded to the discussion of the program in open session.

The first report submitted was that of the delegate to the 9th Annual Conference of the Council on Medical Education of the American Medical Association, Dr. William L. Estes, South Bethlehem. The report was read by the Secretary.[1]

The report of the Committee on Teaching Sanitary Sciences in the Medical Schools was presented thru the chairman, Dr. John L. Heffron, of Syracuse.[2]

The report was discust by Drs. H. L. Staples, G. A. Hare, Helen C. Putnam and S. D. Risley, and closed by Dr. Heffron.

Upon invitation from the Academy to the Illuminating Engineering Society to send a representative, Dr. Percy W. Cobb, of Cleveland, read a paper on "Illumination from the Standpoint of Medical Sociology." The paper was discust by Drs. S. D. Risley and Helen C. Putnam and closed by Dr. Cobb. The President extended an expression of thanks to Dr. Cobb for his paper and the meeting adjourned to 8 P.M.

EVENING SESSION, 8 P.M.

Dr. Helen C. Putnam presiding.

Dr. Putnam:

As I was coming out of the dining room I was told that there were no vice-presidents here and that I was the last ex-president present, so I have the great honor and pleasure to present to you the speaker of the evening, Dr. Ray Lyman Wilbur, of San Francisco, who will make the President's address.

Dr. Wilbur then read his address on "The Physician of the Future." Following this address, Dr. William Healy, of Chicago, read a paper on "Present Day Aims and Methods of Studying the Offender."

"The Schoolhouse as a Crime Contributor," by Professor Edward C. Elliott, of the University of Wisconsin, was read by Dr. Hare in the absence of Professor Elliott.

At the conclusion of the papers the Academy adjourned until Saturday, June 14th, at ten in the morning.

SATURDAY, June 14th, 10 A.M.

The Academy met in executive session, President Wilbur in the chair.

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[1] For text of the report see page 279.

[2] For text of the report see page 271.

The report of the Council was read by the Secretary, and is as follows:

REPORT OF THE COUNCIL, 1912–13.

Altho this is the 38th annual meeting of the Academy, it is the first meeting since it has been incorporated. The Committee on Incorporation, in obeying the explicit instructions of the Academy at the last meeting, secured a decree of the court of Northampton County, Pennsylvania, whereby the American Academy of Medicine becomes a corporation of the first class under the laws of Pennsylvania. This decree was signed February 3, 1913. This will necessitate the rearranging the by-laws at this meeting. Anticipating the passage of an act of incorporation by Congress, a committee was appointed two or three years ago to make the necessary changes, which report came up for action at the meeting held in St. Louis in 1910. Congress failed to pass the act and the report of the committee was laid upon the table for future action. The report was considered again at Los Angeles in 1911, and some amendments adopted to the constitution, but further action was deferred. This report is legally before you and can form the basis of the revision made necessary by the issuing of the charter.

The Academy is to be congratulated upon the excellence of the work of the Program Committee under the chairmanship of Dr. Charles S. Sheldon, whereby a full and interesting program has been furnisht.

The provisions of the Pennsylvania law regarding corporations permit business to be transacted outside the state when a majority of the members of the corporation are not residents of the state with the single exception of the election of officers, which must be done by a meeting held within the state. This will permit the transaction of all business at this meeting with that exception and the Council recommends that when the Nominating Committee presents its report motions be made to receive the report, close the nomination by motion, and postpone further action to an adjourned meeting to be held in Pennsylvania. The law permits the corporation to determine the size of the meeting necessary for the election of officers, and as five has been the quorum of the Academy for a number of years past, if that number be retained in the by-laws there will be no difficulty in having a legal election of those who were nominated and approved by the Academy in annual session. This will necessitate the public induction into office of the President to be postponed until the following year.

From the Secretary's report we glean that the year has been fruitful in the number of papers publisht in the Bulletin and of the interest manifested in many of these papers outside of our own rank. It has so increased the printer's bill, however, that the Treasurer's report is not as favorable as we would like. One feature of the year has been the issuing of a separate volume of papers by the Committee on the Mid-year meeting at Lehigh University, in April, 1912. This committee reports that all expenses have been paid by the sale of this volume and a small sum has been turned over into the treasury of the Academy while the additional volumes on hand, when sold, will pay into the treasury the extra amount needed for publishing these papers in the Bulletin, which will be in a very short time, if the present demand for the volume continues.

The Bulletin should be made a more effective organ than it is. To do this would require the expenditure of a larger sum than is available and the management during the year has copied a plan, inaugurated by the Survey, of asking for coöperative subscriptions, which means the payment of ten dollars a year for the support of the Bulletin. A beginning has been made and the Council commends this plan to the Academy for its favorable consideration. The addition of a few hundred dollars to the income of the Academy, available for improving the Bulletin, would enable it to become what it really should be: a journal of medical sociology.

As usual, we conclude our report with the necrologic list.

NECROLOGIC LIST, 1912–13.

Date not known.

Andrew R. G. Smith, North Whitefield, Me.; b. at Bridgeton, Me., May 2, 1841. A.B., Bowdoin College, 1863; A.M., same, 1866; M.D., Dartmouth Medical College, 1866. Elected, 1888.

1912, March 20.

Alexander Hadden, New York City; b. at Montgomery, N. Y., July 24, 1833. A.B., Union College, 1856; M.D., College of Physicians, New York, 1859. Elected, 1884.

1912, May 6.

Richard L. Sykes, Columbus, Miss.; b. at Lowndes Co., Miss., January 27, 1840. A.B., University of North Carolina, 1860; A.M., same, 1867; M.D., University of New York, 1866. Elected, 1892.

1912, October 29.

George M. Tuttle, New York City; b. at Rochester, N. Y., October 2, 1855. A.B., Yale, 1877; M.D., College of Physicians and Surgeons, New York City, 1890. Elected, 1898.

1912, November 2.

C. Galen Treichler, Honeybrook, Pa.; b. at McKeansburg, Pa., February 23, 1840. Son of Dr. J. F. and Mary Treichler. His preparatory education was obtained at Wyoming Seminary, where he was a student for two years. A.B., Pennsylvania College, 1862; A.M., same, 1865; M.D., University of Pennsylvania, 1865. In 1869 Dr. Treichler was married to Miss Mary E. Dorlan, of Chester County, Pa. He was a member of the American Medical Association, the Pennsylvania Medical Society, the Chester County Medical Society, the Society for the Prevention of the Social Evil, and others. Elected, 1877.

1912, November 19.

Richard A. Cleemann, Philadelphia; b. at Philadelphia, February 22,

1840. A.B., University of Pennsylvania, 1859; A.M., same, 1862; M.D., same, 1862. Elected, 1879.

1912, December 6.

Charles E. Cummings, Seattle, Wash.; b. at New Wilmington, Pa., January 1, 1859. A.B., Westminster College, 1879; M.D., Bellevue Hospital Medical College, 1883. Elected, 1888.

1912, December 21.

Frank R. Wheeler, Auburn, Ill.; b. at Auburn, January 20, 1877. B.S., Illinois College, 1899; M.D., Northwestern University, 1903. Elected, 1906.

1912, December 25.

Amos M. Jackson, Fall River, Mass.; b. at Lee, Me., October 19, 1840. A.B., Colby College, 1861; Honorary A.M., Colby, 1903; M.D., Dartmouth, 1872. Elected, 1906.

1913, March 13.

Roland G. Curtin, Philadelphia; b. at Bellefonte, Pa., October 29, 1839. Son of Dr. Constan and Mary Ann Curtin. He was a student at the Bellefonte Academy and Williston Seminary. Ph.D., University of Pennsylvania, 1872; Honorary A.M., Lafayette College, 1883; M.D., University of Pennsylvania, 1866. Dr. Curtin married Miss Julia Taylor Robinson in 1882 and had two children. He was consulting physician to the Presbyterian, Douglas, Jewish and Rush Hospital for Consumptives and was lecturer on physical diagnosis in his Alma Mater. Dr. Curtin was a member of the American Climatological Association, American Medical Association, Philadelphia County Medical Society and American Society of Tropical Medicine. He also was the author of many articles for medical journals and medical text-books. Elected, 1901.

1913, March 17.

Prince O. Morrow, New York City; b. at Mt. Vernon, Ky., December 19, 1846. A.B., Cumberland College, 1864; A.M., University of the City of New York, 1882; M.D., Medical Department of the same, 1873. He was attending physician to the New York City hospital; clinical professor of venereal diseases and lecturer on dermatology at the University and Bellevue Hospital Medical College. He was a member of the New York Academy of Medicine and the New York Dermatological Society. When the American Society of Sanitary and Moral Prophylaxis was organized in 1905, he was elected its President and retained this position until his death. He was also President of the American Federation for Sex Hygiene. Dr. Morrow, besides being the author of many articles, was the editor of the *Journal of Cutaneous and Genito-Urinary Diseases*, of which he was one of the founders. Elected, 1883.

1913, April 2.

Allen D. Staples, Dubuque, Ia.; b. at Dubuque, February 4, 1859. A.B., Harvard, 1881; M.D., Chicago Medical College, 1884; M.D., College of Physicians and Surgeons, New York City, 1885. Elected, 1889.

1913, April 8.

John Jay Craig, Columbia, Pa.; b. at Columbia, November 4, 1876. A.B., Franklin and Marshall College, 1898; A.M., same, 1901; M.D., Jefferson Medical College, 1901. Elected, 1901.

1913, April 29.

Charles H. Knight, New York City; b. at Easthampton, Mass., November 22, 1849. Son of Horatio Gates and Mary Ann Knight. Was a student at Williston Seminary. A.B., Williams College, 1871; A.M., same, 1878; M.D., College of Physicians and Surgeons, New York, 1874. Dr. Knight served as interne in the Roosevelt Hospital during 1875 and 1876 and the New York Hospital in 1877, and limited his practice to the nose and throat. In 1893 he married Miss Lucy Ellen Tolford. Dr. Knight was a member of many medical societies, chief among them being the American Medical Association, New York Academy of Medicine, New York County Medical Society and the American Laryngological Association, the latter of which he was secretary and president. He was professor of laryngology in the New York Post-Graduate Medical School and professor of clinical surgery in the Cornell University Medical College. Not only was Dr. Knight the author of several books on his specialty but he was also a contributor to the medical journals. Elected, 1889.

1912, April 6.

Albert Woodside, Rockland, Me.; b. at Wales, Me., July 19, 1847. A.B., Bowdoin, 1869; A.M., same, 1872; M.D., Medical School of Maine, 1874. Elected, 1888.

1913, May 18.

Joseph Tomlinson, Bridgeton, N. J.; b. at Roadstown, N. J., August 15, 1854. A.B., Williams College, 1875; M.D., College of Physicians and Surgeons, New York City, 1878. Elected, 1892.

1913, May 30.

Harry Ashton Tomlinson, Willmar, Minn.; b. at Philadelphia, July 3, 1855. Son of George W. and Sarah S. McCahan. M.D., University of Pennsylvania, 1880. On April 16, 1884, Dr. Tomlinson was married to Miss Mary V. Bailey. He was President of the Minnesota State Medical Association in 1907, of the Minnesota Antituberculosis Association in 1909, and of the State Sanitary Conference in 1910. He was also a member of the American Medical Association, the Conference of Charities and Correction and other societies. Dr. Tomlinson was deeply interested in mental and nervous diseases and he contributed many articles pertaining to these subjects to the various medical journals. He was Superintendent of the St. Peter State Hospital from 1893 to 1912, when he went to Willmar to assume the superintendency of the State Hospital for Inebriates, which position he held at the time of his death. Dr.

Tomlinson was also first Vice-President of the Academy at the time of his death. Elected, 1901.

On motion, the report of the Council was accepted and the recommendations taken up separately.

The first recommendation, that when the "Nominating Committee presents its report, motions be made to receive the report, close the nominations and postpone further action to an adjourned meeting to be held in Pennsylvania," was adopted.

The other recommendation, that the Academy favor the securing of co-operative subscribers to the Bulletin, was modified, and, on motion, there was instituted a class of co-operative subscribers at ten dollars, each of whose names shall be indicated in the annual report of the Academy.

The Council recommended the election of Drs. Harris Dana Newkirk and Rock Sleyster. On motion, the Secretary was instructed to cast the ballot favoring the election of these gentlemen and they were elected.

The following proposals for associate membership were presented, each having received the approval of the Council, and were elected by the casting of the ballot by the Secretary:

Charles F. Thwing, President Western Reserve University.
Professor Abby L. Marlatt, University of Wisconsin.
Judge E. F. Waite, Minneapolis.
H. H. Goddard, Vineland, N. J.

Communications were received from the General Secretary of the International Congress on School Hygiene, requesting the Academy to elect a delegate to the Congress to be held in Buffalo, August 25–30. On motion, Dr. DeLancey Rochester, of Buffalo, was elected as a delegate.

At this point the Academy arose from executive session and entered upon the deliberations of the scientific program, the first item being the Report of the Committee to Investigate the Teaching of Hygiene in Public Schools, Dr. Helen C. Putnam, chairman. The report was discust by Drs. S. A. Knopf and Putnam. Dr. Knopf moved that the report be received with the thanks of the Academy and the Committee continued. The motion was seconded and adopted, the recommendations of the report being referred to Council without debate, according to the standing rules.

The Academy then entered upon consideration of the symposium for the year—the Physical Bases of Crime—and upon motion it was decided that the authors present read their papers, the others to be presented by title. The following papers were read: "Heredity as a Factor in Criminality—a Study of the Findings in about a Thousand Cases," by Dr. Edith R. Spaulding, South Framingham, Mass.; "Relation of Juvenile Crime to Parental Diseases," by Dr. Haldor Sneve, St. Paul, Minn.; "The Influence of Publicity on Crime," by Dr. W. Blair Stewart, Atlantic City. These papers were discust by Drs. Healy, Putnam, Knopf, Marcy, O'Conner, Sneve, Jackson, and closed by Drs. Spaulding, Sneve and Stewart.

The Academy then took recess until 2.30 P.M. Upon reconvening, the reading of papers in the symposium was continued as follows: "The Physician in the Service of Criminology," by Professor Robert H. Gault, Evanston, Ill.; "From the Viewpoint of a Judge of a Juvenile Court," by Judge Edward F. Waite, Minneapolis; "From the Standpoint of a Prison Physician," by Rock Sleyster, Waupun, Wis.; and "Truancy the Kindergarten of Crime," by Mr. Bert Hall, Milwaukee. This group of papers was discust by Professor Gault, Mr. Hall, Drs. O'Conner, Sleyster, Stewart and Marcy, and closed by Mr. Hall.

The reading of papers was continued. Dr. T. D. Crothers, of Hartford, Conn., presented a paper on "The Physical Character of Crimes of the Alcoholic," while "The Relation of Physical Defects to Delinquency with Special Reference to the Hennepin County Juvenile Court" was presented by Dr. H. D. Newkirk. These papers were discust by Dr. Knopf and closed by Dr. Crothers.

At the conclusion of the reading of the papers the Academy went into executive session and adjourned until Monday morning, at 10 A.M.

The Academy reconvened in social session at 7.30 P.M., and after a very enjoyable repast the post-prandial program was followed out with President George Edgar Vincent, of the University of Minnesota, as magister.

On Sunday afternoon, at three o'clock, the annual conference on Western Medicine in Eastern Lands was held in the Westminster Church, with Dr. L. Duncan Bulkley, of the Committee, presiding. There was an address by Rev. J. A. Melrose, assistant pastor of the church, on "The Larger Meaning of Medical Missions," communications from Dr. E. D. Vanderburgh, of the American Presbyterian Mission Hospital, Siangtan, Hunan, China, which was read by Dr. Edward Jackson; "Notes on Leprosy and Tuberculosis in Syria," by Dr. Mary P. Eddy, of the Mt. Lebanon Sanatoria, Syria, which was read by Professor Abby L. Marlatt; "Notes from the Caroline A. Ladd Hospital," by Dr. James Hunter Wells, of Pyengyang, Korea, read by Dr. Ray Lyman Wilbur; a letter from Dr. Harry Wilson Boyd, of Canton, China, read by Dr. Bulkley. The concluding paper was read by Dr. Charles K. Roys, of Wei-Hsein, Shantung, China, on "My Work in Wei-Hsein."

BALL ROOM, LEAMINGTON HOTEL,
MINNEAPOLIS, June 16th.

The Academy met at 10 A.M., pursuant to adjournment. The Nominating Committee reported as follows:

Dr. Putnam, chairman:

The Nominating Committee consisted of Dr. Risley, Dr. Heffron and myself. Only Dr. Risley and I met. There was some misunderstanding and the third member was not present. Therefore, this report is submitted by a two-thirds majority but has not the approval of the third member of the Committee:

President, Dr. John L. Heffron, Syracuse, N. Y.

Vice-Presidents, Dr. Horace Newhart, Minneapolis; Dr. W. Jarvis Barlow, Los Angeles; Dr. C. L. Stevens, Athens, Pa.; Dr. W. Blair Stewart, Atlantic City.

Secretary, Dr. Charles McIntire, Easton, Pa.

Treasurer, Dr. Charles McIntire, Easton, Pa.

Assistant Secretary, Dr. Wm. L. Estes, Jr., South Bethlehem, Pa.

It was moved that the Secretary be instructed to cast the ballot for the election of the nominees at the adjourned meeting to be held in Pennsylvania.

The Council recommended the election of Dr. Edith R. Spaulding for Fellowship and the Secretary was instructed to cast the ballot in her favor, and she was declared elected.

The recommendations in the report of the Committee to Investigate the Study of Hygiene in the Public Schools, referred to the Council, were reported back to the Academy with the recommendation that they be adopted.[1] Upon motion, the recommendation was agreed to and the resolutions adopted.

The Committee on Resolutions reported as follows:

Resolved, That the thanks of the American Academy of Medicine be tendered to all who have assisted in making the Thirty-eighth annual meeting so successful and our sojourn in Minneapolis so delightful;

To our invited guests who by their papers added so much to the value of the scientific proceedings;

To the committee of local arrangements, whose plans and labors anticipated every item for our comfort;

To the Management of the Leamington, whose hospitality welcomed us every hour of our stay.

The 1913 meeting will long be held in remembrance as a meeting where valuable work was done in an environment at once congenial and hospitable.

On motion, the report was received and adopted.

The Auditing Committee reported that it had examined the books and accounts of the Treasurer, carefully checkt the receipts and expenditures, and found them correct. On motion, the report was accepted and adopted.

Under unfinisht business the Academy took into consideration the new charter and the necessary changes in the Constitution and By-Laws. The charter, as granted by the Court, was read by the Secretary (for text see p. 301).

The President remarkt:

I would like to see the limitation of the number of associate members stricken out. The American Academy of Medicine has a great opportunity in medical sociology. There are now growing up a great many societies touching on medical sociology that have some medical bearing but none like this. No other present association can take the position that we can. Unless we increase our associate membership, the field will soon be occupied by lay bodies and we shall be begging for members in the organizations to do this work.

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[1] These recommendations will appear in the publisht report of the Committee. The report was retained by the Committee that it might be typewritten and has not been sent to the Secretary in time to appear in connection with the transactions.

Dr. Heffron offered the following resolution:

Resolved, That Section 5 of Article 6 of the Charter be amended by striking out the words "and associates" and in the next line "respectively;" and substituting in the next line "Honorary and Associate members" for "they."

This was seconded by Dr. Tuckerman and laid over until the next meeting.

The revision of the constitution and by-laws was taken up as presented by the report of the Committee at the previous meeting of the Academy and deferred to the present meeting. The articles were considered section by section and adjusted to the requirements of the Pennsylvania charter, for which they were adopted as a whole (for the text of the by-laws as adopted see p. 308).

Dr. Heffron presented the following resolution:

Resolved, That Article 7 of the Charter be amended by substituting *two* for *four* Vice-Presidents.

This was seconded by Dr. Putnam and laid over until the next meeting.

On motion, the Academy, when it adjourns, will adjourn to meet in Easton, Pennsylvania, on June 27, 1913.

The Council recommended that the Academy place itself on record as favoring the thoro investigation by the United States Government of the properties and therapeutic application of the different mineral waters of the government reservations.

The Council also recommended that the Academy place itself on record in favor of legislation looking toward the adoption of proper provisions for the protection of women and children, but does not desire to commit itself for the support of any particular bill.

The recommendations of the Council were received and adopted.

The time and place of the next meeting was referred to the Executive Committee of the Council.

Dr. W. Blair Stewart, of Atlantic City, said that there was an effort to secure the meeting of the American Medical Association at Atlantic City in 1914, and invited the Academy to meet at the same place. On motion, the Academy exprest itself in favor of Atlantic City for the meeting.

The President said that there had been a very urgent invitation from the Panama-Pacific Exposition for the Academy to meet in San Francisco in 1915. "It just happens that I shall have charge of the program under the rules of the Academy. If it meets your favor to accept the invitation, it has occurred to me that a symposium upon the Relation of Medicine to Trade and Commerce would be interesting."

On motion of Dr. Heffron the Academy favored the suggestion of the President that the 1915 meeting be held in San Francisco. The motion was seconded and carried.

The President made some remarks regarding the securing of greater publicity for the papers and transactions of the Academy, which elicited considerable discussion and was finally referred to the Council's Committee on Policy.

It was moved that the President-elect be inducted into office at the next annual meeting.

On motion, the adjourned meeting in Pennsylvania was instructed to complete any details caused by the rearrangement of the by-laws that may have been omitted at this meeting.

EASTON, PA., June 27, 1913.

The Academy met pursuant to adjournment and in absence of the President and Vice-Presidents, Dr. E. M. Green was elected President *pro tem.* The Secretary read from the minutes of the Minneapolis meeting the business referred to this adjourned session. As instructed by the Academy, the Secretary cast a ballot in favor of those nominated for office, and the following were declared to be elected:

President, John L. Heffron, Syracuse, N. Y.
First Vice-President, Horace Newhart, Minneapolis.
Second Vice-President, W. Jarvis Barlow, Los Angeles.

Third Vice-President, C. L. Stevens, Athens, Pa.
Fourth Vice-President, W. Blair Stewart, Atlantic City.
Secretary and Treasurer, Charles McIntire, Easton, Pa.
Assistant Secretary, W. L. Estes, Jr., South Bethlehem, Pa.

The Secretary also reported that at Minneapolis the election of two important committees had been overlooked until after adjournment. He consulted with the President and the President-elect, and as a result of this conference would nominate the members of the committees, suggesting that their term of office be determined by lot. The nominations were made and on motion of Drs. Shimer and Estes they were duly elected. The names were placed upon cards and their terms of office were decided. The committees are as follows:

Publication:

- S. D. Risley, Philadelphia, five years.
- Edward Jackson, Denver, four years.
- Ray Lyman Wilbur, San Francisco, three years.
- Winfield Scott Hall, Chicago, two years.
- Henry O. Marcy, Jr., Boston, one year.

Finance:

- Donly C. Hawley, Burlington, Vt., five years.
- James McBride, Pasadena, four years.
- A. R. Craig, Chicago, three years.
- John B. Roberts, Philadelphia, two years.
- Casey A. Wood, Chicago, one year.

A communication was read from Dr. Mary R. Noble asking to have her resignation rescinded and to be reinstated in the Academy, paying her dues for the intervening years since her resignation. The Secretary stated that he had voted in favor of accepting Dr. Noble's resignation and moved a reconsideration of that action. The motion was seconded and adopted. The question now being the original motion to accept the resignation, on motion of Drs. Fretz and Shimer it was not accepted.

On motion, the Academy adjourned.

INCORPORATION OF AMERICAN ACADEMY OF MEDICINE

PETITION.

COMMONWEALTH OF PENNSYLVANIA, } SS.
COUNTY OF NORTHAMPTON. }

PETITION FOR INCORPORATION.

To the Honorable, the Judges of the Court of Common Pleas of Northampton County:

Be it known that the subscribers, having associated themselves together for the purpose hereinafter set forth, and being desirous of becoming incorporated agreeably to the provisions of the Act of General Assembly of the Commonwealth of Pennsylvania, entitled "An Act to Provide for the Incorporation and Regulation of Certain Corporations," approved the 29th day of April, A.D., 1874, and particularly Section 2, sub-division III thereof, and its supplements, do hereby declare, set forth and certify that the following are the purposes, objects, articles and conditions of the said association, for and upon which they desire to be incorporated:

ARTICLE I.

The name of the corporation shall be the "American Academy of Medicine."

ARTICLE II.

The purpose for which the corporation is formed is the maintenance of a proper educational standard for the medical profession and the investigation of the problems of medical sociology.

ARTICLE III.

The place where the business of the said corporation is to be transacted is in the City of Easton, in the County of Northampton, and State of Pennsylvania.

ARTICLE IV.

The corporation is to exist for a period of nine hundred and ninety-nine years.

ARTICLE V.

The names and residences of the subscribers are as follows:

Names.	Residences.
Ray Lyman Wilbur,	San Francisco, Cal.
Henry A. Tomlinson,	Willmar, Minn.
W. E. Darnall,	Atlantic City, N. J.
Alice Weld Tallant,	Philadelphia, Pa.
J. E. Tuckerman,	Cleveland, O.
Charles McIntire,	Easton, Pa.
W. L. Estes, Jr.,	South Bethlehem, Pa.
T. D. Davis,	Pittsburgh, Pa.
Benjamin Lee,	Harrisburg, Pa.
G. Hudson-Makuen,	Philadelphia, Pa.
S. D. Risley,	Philadelphia, Pa.
John B. Roberts,	Philadelphia, Pa.
James C. Wilson,	Philadelphia, Pa.
W. L. Estes, Sr.,	South Bethlehem, Pa.

ARTICLE VI.

SECTION 1. The members of the Academy shall consist of fellows, honorary members, and associate members.

SECTION 2. The fellows shall be liberally educated physicians, as interpreted by the rules formulated by the Council and adopted by the Academy.

SECTION 3. Honorary members shall consist of members of the medical profession, who shall have made important contributions to medical science or to medical education.

SECTION 4. Associate members shall be elected from among those working along sociologic, educational or other scientific lines closely related to the work of the Academy, and who have made notable contributions in their respective lines.

SECTION 5. The honorary and associate members shall not exceed, respectively, five for every one hundred fellows. They shall be entitled to attend the meetings of the Academy and participate in the proceedings, but shall have no right to vote nor hold office.

SECTION 6. The consent, by ballot, of two-thirds of the fellows present shall be necessary for the election of fellows, honorary and associate members.

ARTICLE VII.

The officers of the Academy shall be a President, four Vice-Presidents, a Secretary, an Assistant Secretary, and a Treasurer. These shall be elected by ballot from the fellows, to serve one year, or until others are elected. The president is ineligible for two successive terms.

ARTICLE VIII.

The affairs of the Academy shall be directed by the Council, which shall consist of the officers of the Academy, ex-presidents, and one fellow for every twenty or fraction thereof in attendance. The latter shall be appointed annually by the President. The names and residences of the Council for the first year are:

Names.	Residences.
Ray Lyman Wilbur,	San Francisco, Cal.
Henry A. Tomlinson,	Willmar, Minn.
W. E. Darnall,	Atlantic City, N. J.
Alice Weld Tallant,	Philadelphia, Pa.
J. E. Tuckerman,	Cleveland, O.
Charles McIntire,	Easton, Pa.
W. L. Estes, Jr.,	South Bethlehem, Pa.
L. Duncan Bulkley,	New York.
T. D. Davis,	Pittsburgh, Pa.
J. E. Emerson,	Detroit, Mich.
Frederick H. Gerrish,	Portland, Me.
George M. Gould,	Atlantic City, N. J.
Winfield S. Hall,	Chicago, Ill.
Donly C. Hawley,	Burlington, Vt.
H. M. Hurd,	Baltimore, Md.
Edward Jackson,	Denver, Colo.
Benjamin Lee,	Harrisburg, Pa.
James H. McBride,	Pasadena, Calif.
G. Hudson-Makuen,	Philadelphia, Pa.
Henry O. Marcy,	Boston, Mass.

Names.	Residences.
Herbert C. Moffitt,	San Francisco, Cal.
Horace Newhart,	Minneapolis, Minn.
Helen C. Putnam,	Providence, R. I.
S. D. Risley,	Philadelphia, Pa.
John B. Roberts,	Philadelphia, Pa.
Charles S. Sheldon,	Madison, Wis.
V. C. Vaughan,	Ann Arbor, Mich.
James C. Wilson,	Philadelphia, Pa.
Casey A. Wood,	Chicago, Ill.

Article IX.

By-laws for the governing of this corporation may be passed by a two-thirds vote of the fellows present at its next annual meeting.

Article X.

Every proposal to alter or amend the constitution of the Academy shall be made in writing and entered on the minutes. If two-thirds of the fellows present at the next regular meeting vote for such alteration or amendment, it shall be adopted.

Every proposal to alter or amend the by-laws shall be made in writing; and if such alteration or amendment receive the unanimous consent of the fellows present, it shall be adopted; but if objections be made, the alteration or amendment shall lie over until the next regular meeting, when, if it receive the vote of two-thirds of the fellows present, it shall be adopted.

All by-laws and all amendments thereof to be adopted by the said proposed corporation for its government and all amendments to its Charter, shall be consistent with the constitution and laws of the United States, the constitution and laws of this Commonwealth, and with the proposed Charter.

Article XI.

The yearly income of the corporation derived from real estate will not exceed the sum of One Thousand Dollars.

ARTICLE XII.

The yearly income of the corporation, other than derived from real estate, will not exceed the sum of Five Thousand Dollars.

ARTICLE XIII.

SECTION 1. The fellows of the Academy in their relations with each other and with their fellow men agree to be governed by the principles embodied in the present Principles of Ethics of the American Medical Association, and by the constitution and by-laws of the Academy.

SECTION 2. A complaint being duly made to the Council by two fellows against any fellow, or honorary or associate member, for a violation of the constitution or by-laws of the Academy, the ethical principles therein recognized, or the laws of morality, shall be heard and considered by the Council, notice of the same, including the time and place of hearing, being served on the accused by the Secretary at least four weeks beforehand, that he may present a defense; and the sentence of the Council, whatever it may be in such case, shall be final.

ARTICLE XIV.

The fund now known as the "permanent fund of the American Academy of Medicine," when transferred to the corporation hereby created, shall be held by such corporation as a permanent fund and shall be in charge of the Council, who shall provide for the safe-keeping and investment of such fund, and of all other funds which the corporation may receive by donation, bequest, or devise. No part of the principal of such permanent fund shall be expended except by a two-thirds vote of the fellows of the Academy present at any annual meeting, upon the recommendation of the Council, and after printed notice of the proposed expenditure has been mailed to all Fellows of the Academy. The income of the permanent fund shall be used only to meet the cost of maintaining the organization of the Academy and of publishing its bulletin, unless the terms of the donation, bequest, or devise shall otherwise specify or the Council shall otherwise order.

Witness my hand and official seal this third day of February, A.D., 1913.

W. L. Estes, Sr. (Seal)
W. L. Estes, Jr. (Seal)
John B. Roberts. (Seal)
James C. Wilson. (Seal)
G. Hudson-Makuen. (Seal)
Samuel D. Risley. (Seal)
Alice Weld Tallant. (Seal)
Charles McIntire. (Seal)
Ray Lyman Wilbur. (Seal)
H. A. Tomlinson. (Seal)
J. E. Tuckerman. (Seal)
Thomas D. Davis. (Seal)
Benjm. Lee. (Seal)
Wm. Edgar Darnall. (Seal)

Commonwealth of Pennsylvania, } SS.
County of Northampton. }

Before me, the subscriber, a Notary Public of the Commonwealth of Pennsylvania, personally appeared Charles McIntire, one of the subscribers of the above and foregoing certificate of Incorporation of the American Academy of Medicine, and in due form of law acknowledged the same to be his act and deed.

Witness my hand and official seal this thirtieth day of December, A.D., 1912.

Reuben Kolb,
Notary Public.

Commission expires Jan. 21, 1915.

Commonwealth of Pennsylvania, } SS.
County of Northampton. }

Before me, the subscriber, a Notary Public of the Commonwealth of Pennsylvania, personally appeared W. L. Estes, Sr., one of the subscribers of the above and foregoing Certificate of Incorporation of the American Academy of Medicine, and in due form of law acknowledges the same to be his act and deed.

Witness my hand and official seal this 23d day of November, A.D., 1912.
HARVEY M. UEBERROTH,
Notary Public.

(SEAL)

COMMONWEALTH OF PENNSYLVANIA, } SS.
COUNTY OF PHILADELPHIA. }

Before me, the subscriber, a Notary Public of the Commonwealth of Pennsylvania, personally appeared John B. Roberts, one of the subscribers to the above and foregoing Certificate of Incorporation of the American Academy of Medicine, and in due form of law acknowledged the same to be his act and deed.

Witness my hand and official seal this 27th day of November, A.D., 1912.
WILLIAM C. SCOTNEY.
(SEAL)
Notary Public.

IN THE COURT OF COMMON PLEAS OF NORTHAMPTON COUNTY.

AND NOW, this Third day of February, A.D., 1913, the within charter and certificate of incorporation having been presented to me, a law Judge of said County, and due proof of the publication of the notice of this application, as required by the Act of Assembly, in such case made and provided, I certify that I have examined and perused the said writing and have found the same to be in proper form and within the purposes named in the first class specified in Section Second of the Act of General Assembly of the Commonwealth of Pennsylvania, entitled "An Act to Provide for the Incorporation and Regulation of Certain Corporations," approved April 29th, 1874, and the supplements thereto, and the same appearing to be lawful and not injurious to the community, I do hereby, on motion of David Bachman, Esq., on behalf of the petitioner, order and direct that the said Charter of the "American Academy of Medicine" aforesaid, be and the case is hereby approved, and that upon the recording of the same and this order, the subscribers thereto and their associates shall be a corporation by the name of the "American Academy of Medicine," for the purposes and upon the terms therein stated.

By the Court,
(Signed) HENRY W. SCOTT, P. J.,
3d District of Penna.

BY-LAWS.

ARTICLE I.—MEMBERSHIP.

SECTION 1. Election to fellowship shall be after personal application, approved by one member of the Academy; to associate and honorary membership, by proposal of two members of the Academy. The applications (or proposals) shall be made upon blanks provided by the Council, and presented to the Council. Such applications, or proposals, as are approved by the Council, shall be recommended to the Academy for election.

SECTION 2. Whenever a Fellow relinquishes the active pursuit of his profession either from the infirmities of age or from physical disability, he may be placed on the roll of retired Fellows by vote of the Council. Retired Fellows retain all the privileges of Fellows but are exempted from paying dues.

ARTICLE II.—OFFICERS.

SECTION 1. The President shall preside at the meetings of the Academy and of the Council, preserve order, announce the admission of Fellows and members, appoint all committees not otherwise ordered, fill vacancies which may occur in the Council and in committees, and name the time and place of meeting for the Council. When requested by a majority of the officers to call a special meeting of the Council, he shall direct the Secretary to call such meeting and shall indicate the special objects to be considered. He shall deliver an address before the Academy after his induction into office, and perform such other duties as the charter, by-laws, and parliamentary rules require.

SECTION 2. The Vice-Presidents, when called upon, shall assist the President in the performance of his duties. In his absence, or at his request, one of them shall take his place in the Academy or in the Council, and may deliver the annual address.

SECTION 3. The Secretary shall have charge of the records and correspondence of the Academy. He shall receive all proposals for membership presented in due form and lay them before the Council. He shall receive all fees and give receipts for them. He shall pay the same to the Treasurer and take his receipt therefor. He shall enter in the register of the Academy the names of all the Fellows admitted from year to year, with their post-office address, place of nativity, time of birth, degrees, the institution conferring them and the dates thereof; and the time of their demise when that shall occur. He shall enter in another part of the register the names of the honorary and associate members. He shall keep an accurate and legible account of the acts of the Academy and of the Council, and shall preserve the same carefully and deliver them to his successor when elected. He shall edit the publications in a manner and style agreed upon by the Council. He shall give due notice of the meetings of the Academy, and shall, in connection with the presiding officer, certify all acts of the Academy and of the Council. He may appoint a deputy to serve at the principal office of the Academy, which appointment must be approved by Council.

SECTION 4. It shall be the duty of the Assistant Secretary to assist the Secretary in the meetings of the Academy as well as in the meetings of the Council, and in his absence take his place. Should the Secretary be unable to perform the *ad interim* duties of his office, they shall be undertaken by the Assistant Secretary.

SECTION 5. The treasurer shall receive the funds of the Academy from the Secretary and take charge of the same. He shall pay out of those only such sums as are ordered by the Academy or the Council, and shall take vouchers for the same. He shall annually present a statement of the finances of the Academy, which shall be referred to a committee of three Fellows to be audited. He shall hold the funds of the Academy in trust and shall give security for faithful performance of his duties when the receipts exceed five hundred dollars annually. He shall deliver all funds to his successor when elected.

ARTICLE III.—THE COUNCIL.

SECTION 1. The Council shall convene at the call of the President, and shall consider and act upon all proposals for membership presented in due form. If the Council is satisfied that the qualifications of the candidates are such as are required by the charter, it shall report the same to the Academy with the words "Approved by the Council" endorsed on the proposal. In the case of those who may not be reported, or do not receive a vote of two-thirds of the Academy, no minute shall be kept.

SECTION 2. It shall be the duty of the Council to consider and recommend plans for promoting the objects of the Academy; to superintend its interests; to make arrangements for the meetings; to determine finally all questions of medical ethics arising among the Fellows and members; to decide upon and superintend all publications; to authorize the disbursement of all unappropriated funds in the treasury for the payment of current expenses; and to perform such other duties as may from time to time be committed to it by the Academy.

SECTION 3. All motions or resolutions, excepting those which relate to ordinary and routine business, shall be referred to the Council without debate. Unless otherwise instructed by the Academy, the Council shall report the resolution at the next executive session following the introduction of the resolution.

SECTION 4. The President, President-elect and Assistant Secretary, with one other member of the Council, elected by the Council at the annual meeting of the Academy, shall be the Executive Committee of the Council. The committee shall have oversight of the welfare of the Academy during the interval between the meetings of the Council, and shall determine the action of the Academy upon any question that cannot be delayed until a meeting of the Council. The minutes of the committee shall be presented to the Council for its information.

ARTICLE IV.—MEETINGS.

SECTION 1. The Academy shall hold a regular meeting annually, the time and place to be determined upon at the previous regular meeting: but both time and place may be changed by the Council for reasons that shall be specified in the announcement of the meeting.

SECTION 2. The Council may call special meetings of the Academy whenever, in its judgment, it is necessary; it shall call a special meeting whenever it is requested to do so by twenty-five Fellows of the Academy.

SECTION 3. At special meetings only such business can be transacted as is mentioned in the call for the meeting.

SECTION 4. The minutes of all special meetings shall be sent to the Council within thirty days after the special meeting of the Academy for its information and, with the exception of the Fellows elected, be subjected to its revision or veto. The transactions of all special meetings shall be a part of the proceedings of the year designated by the previous annual meeting.

ARTICLE V.—REVENUE.

SECTION 1. *Initiation Fee.*—The initiation fee shall be five dollars, and shall be the only fee for the first year. It shall accompany the application for admission.

SECTION 2. A fee of three dollars shall be due at each annual meeting; the neglect to pay this fee for three years shall cause the name of the Fellow so neglecting to be removed from the regular roll and to be entered upon a separate roll to be known as the list of suspended Fellows, which fact shall be reported to the Council. Fellows paying this fee shall be entitled to the regular publications as issued. For the convenience of the Treasurer in preparing his report for the annual meeting, the fiscal year of the Academy will close on the 30th day of April of the calendar year.

SECTION 3. *Commuting dues.*—If any Fellow pay the sum of fifty dollars at one time he is freed from the payment of any subsequent annual dues and is entitled to receive the regular publications of the Academy. The money received for the payment of life dues shall be invested as Council may direct and the interest only can be expended.

SECTION 4. *Donations.*—Donations may be received for the general activities of the Academy; or to be used in furthering a special line of effort. In all cases these funds shall be held in trust to be employed as the donor has directed.

ARTICLE VI.—PUBLICATIONS.

SECTION 1. The publications of the Academy shall be under the direction of a standing committee to be known as the publication board. This committee shall consist of five Fellows of the Academy, serving for one, two, three, four and five years, respectively; and thereafter one member shall be elected annually to serve for five years, to take the place of the member whose term expires. The Secretary of the Academy shall be the secretary of the committee and may or may not be a member thereof. The publications of the Academy shall be under the care and control of the publication board, under the direction of the Council.

SECTION 2. The publications of the Academy shall be divided into three classes: regular, occasional and special.

SECTION 3. The regular publication shall be the Bulletin of the American Academy of Medicine. The Council shall instruct the Treasurer to subscribe thru the publication committee for a copy of the Bulletin for every Fellow of the Academy whose dues are paid.

SECTION 4. Occasional publications shall consist of reprints from the Bulletin, either of single articles or a grouping of papers which it is desirable to have bound in a single volume.

SECTION 5. Special publications shall include those whose contents have not appeared in the Bulletin or been read at a meeting of the Academy. Special publications must treat of subjects germane to the work of the Academy, must receive the approval of at least four members of the publication committee, and shall involve the Academy in no financial responsibility.

ARTICLE VII.—QUORUM.

Five Fellows of the Academy shall constitute a quorum at any regularly called meeting.

ARTICLE VIII.—SEAL.

The seal of the Academy shall consist of: an American shield on which is the wand and serpent of Esculapius, surmounted by an eagle with wings spread; through the beak is a ribbon containing the motto, "Prodesse Civicus." The whole is surrounded by a double circle, between which are inscribed "Academia Medicinae Americana" and the numerals "1876."

ARTICLE IX.—DELEGATES.

Delegates may be sent, by a vote of the Academy, or by the Council when the Academy is not in session, to associations engaged in sociologic, educational, or other lines of research closely related to the work of the Academy, and delegates may be received from such associations.

ARTICLE X.—ORDER OF BUSINESS.

The order of business shall be fixt by the Council.

FROM THE FIELD.

THE FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

As the time for the meeting of the Congress approaches, its value becomes more apparent. The program is extensive, varied and of great promise. The citizens of Buffalo are awake to their opportunity of demonstrating their hospitality. The place for the meeting affords more than average advantages for sightseeing; unless the Continent is blanketed by a superheated atmosphere (a hot wave), the temperature will be enjoyable. There are thus many inducements to be presented at the Congress.

Some of us may not have the privilege to attend, but such can show their interest in the cause by becoming members. While not able to participate in the meeting itself, the published transactions will afford an ample return for the expenditure of the registration fee.

As the Congress meets in Buffalo on August 25 to 30, membership should be secured at once, in order to receive the advance notices as issued. Checks for the registration fee (five dollars) should be drawn to the order of the Treasurer-General, John H. Lascelles, and sent to the Secretary-General, Dr. Thomas A. Storey, College of the City of New York, New York City, accompanied by the name and address of the person desiring to register.

THE AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY.

On the invitation of the Medical Society of the District of Columbia, the American Association for Study and Prevention of Infant Mortality will hold its Fourth Annual Meeting at the Hotel Willard, Washington, D. C., November 14 to 17, 1913. Plans had originally been made to hold the meeting in Kansas City in October, but they were unavoidably changed.

There will be popular sessions and section meetings.

The subjects to be discussed will include:

Eugenics; prenatal care; instruction of mothers; adequate obstetrical care;

problems of infant hygiene and infant feeding; standards of training for infant welfare nursing; continuation schools of home making; the relation of vital statistics to plans for social betterment; the relation of plans for the conservation of infant life to the general ideals of conservation.

The Association has held three annual meetings, the first in Baltimore, the second in Chicago, and the third in Cleveland.

Its officers are: *President,* Dr. L. Emmett Holt, New York; *President-elect,* Dr. J. Whitridge Williams, Baltimore; *First Vice-President,* Dr. Isaac A. Abt, Chicago; *Second Vice-President,* Arthur D. Baldwin, Cleveland; *Secretary,* Dr. Philip Van Ingen, New York; *Treasurer,* Austin McLanahan, Baltimore.

The chairman of sections are:

Continuation Schools of Home Making, Dr. Helen C. Putnam, Providence.
Eugenics, Prof. H. E. Jordan, University of Virginia, Charlottesville.
Nursing and Social Work, Miss Harriet L. Leete, Cleveland.
Obstetrics, Dr. Mary Sherwood, Baltimore.
Pediatrics, Dr. Henry F. Helmholz, Chicago.
Vital and Social Statistics, Miss Julia C. Lathrop, Washington.

Dr. Samuel S. Adams, of Washington, is Chairman of the Committee on Local Arrangements.

Information and programs can be secured by writing to Miss Gertrude B. Knipp, the Executive Secretary of the American Association for Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore, Md. G. B. K.

NOTES AND NOTICES.

Prof. J. George Adami, of Montreal, in an address before the last meeting of the Medical Society of the State of New York, assumes the thankless role of the Devil's Advocate. The title of his paper is "Certain Elementary Concepts in Education Applied to Medicine." It is high time to sound the warning, and the true physician should rejoice that so distinguished a man as Dr. Adami calls attention to the dangers of the present pernicious method of enumerating the requirements for a medical education. It is hoped that every one concerned in this formulation, from the Council on Medical Education down to the most modest board of state medical examiners, will read this address, ponder thereupon and profit thereby.

Mr. Theodore Hardee, an expert exposition worker, has been appointed Chief of the Department of Liberal Arts for the Panama-Pacific International Exposition. The prominence given this department and the experience of Mr. Hardee promise well for the excellence of the exhibit. Medicine and surgery will be classified among the Liberal Arts.

* * *

If any of our subscribers, who are not filing their Bulletins, can send us the October, 1912, number (Whole No. 131), we will be grateful as our supply is nearly exhausted.

ACADEMY PERSONALS.

Conway, Walt. P., is First Vice-President of the A. M. A.

Crile, George W., is a member of the Board of Regents of the new College of Surgeons.

Estes, William L., Jr., was married on June 11, to Miss Anne Greble, of Washington, D. C.

Mattison, Fitch C. E., was elected president of the California State Medical Society at the recent meeting at Oakland.

Sherman, Harry M., is a member of the Board of Regents of the new College of Surgeons.

Tuckerman, J. E., was married to Miss Katherine Barton, of Mercer, Pa., on May 30.

Vaughan, V. C., is president-elect of the A. M. A.

Welch, William H., has been elected president of the National Academy of Science for a term of six years.

NECROLOGY.

1912.	April 6.	Albert Woodside.
1913.	April 19.	Charles H. Knight.
	May 18.	Joseph Tomlinson.
	May 30.	H. A. Tomlinson.
	June 12.	Eugene Lee Crutchfield.
	July 11.	Benjamin Lee.

LITERATURE NOTES.

REVIEWS.

Reports on Medical Education:

1. Carnegie Foundation for the Advancement of Teaching. Seventh Annual Report of the President and Treasurer, 1912.

2. REPORT OF THE NINTH ANNUAL CONFERENCE OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION, 1913.
3. A SUMMARY OF THE WORK AND RESULTS OF THE INSPECTION OF THE MEDICAL COLLEGES OF THE STATE OF PENNSYLVANIA, BY THE BUREAU OF MEDICAL EDUCATION AND LICENSURE. FEBRUARY 13, 14, 15 AND 16, 1913.

I.

This report is arranged after the same general plan as those that have preceded it and is divided into three parts, the first relating to the business of the year, in which, incidentally, is discussed pension systems of various kinds in order to suggest a feasible pension system for colleges and public schools. Part 3 is devoted to necrological notices and the report of the Treasurer, while Part 2 is a discussion on current educational problems. The first article in this part of the report is upon College Entrance Requirements, the first paragraph of which reads:

> The perplexing questions involved in the transition of youth from the secondary school to the college have occupied much space in previous reports of the foundation. These questions are still the perplexity of every college and of every faculty. In no other country does the boundary between the secondary school and the college present such a spectacle as it presents with us. In other countries the transition is a natural and an easy one. With us, the border line between the secondary school and the college resembles nothing so much as a species of border warfare.

This lack of harmony between the secondary and college education is one of the great obstacles in arranging a safe, sound and consistent scheme for the education of the physician. President Pritchett notes in the previous attempts of the Foundation to formulate what should be a high school course in terms of units and then goes on to say:

> These units have now served their main purpose. They were never intended to constitute a rigid form of college admission, but merely a means of comparing high schools. Already the progress in this matter has been so satisfactory that the general conception of college admission no longer contemplates a certain number of units, but the completion of a satisfactory four-year high school course.

This is a delightful bit of information because the extension of this unit or count system into medical education is fast removing any individuality of the teacher, any independence on the part of the pupil, and making medical education merely *pro forma* as is so delightfully shown by Professor Adami in his recent address before the New York State Medical Society.

Turning to the chapter on medical progress we have again to thank the Foundation for their fearlessness and frankness in characterizing American medical colleges. The inefficiency of the American medical college was recognized long before the Foundation attempted this investigation but the supposedly weak and incompetent colleges were always referred to impersonally, and while they were known to the informed, no effort was made to bring them to the bar of justice. While we have not always agreed with the opinions expressed in these reports the fact of its fighting openly and above board has always commended itself to us, and this has been its great lever in the progress of medical education instituted by its researches. Its general summation of the condition of medical education is found in the following:

> In various directions—improvement of standards, better teaching, larger support, better hospital relations—in the past few years have shown most encouraging progress in the United States and Canada.

The chapters on Advertising as a Factor in Education and Sham Universities is very interesting reading, although it is a pity that such fraudulent institutions are permitted, and it is to be hoped that in the near future the various states will follow the lead of New York, New Jersey and Pennsylvania of enacting legislation safeguarding the granting of collegiate degrees.

2.

The *Bulletin of the American Medical Association* for March contains the report of this Conference which was held in Chicago on the 24th of February. Every page of the report contains a statement that would serve as a text for discussion and review; and where there is so much material, the difficulty lies in selecting. One thing is showing itself: The Council is beginning to recognize the hampering caused by the specific enumeration as to hours and days in arranging the medical curriculum, and, as time goes on, this will become more evident until some one is bold enough to break the shackles which threaten to stop the progress in medical education.

A professor of a well-known medical school said to the writer not long ago, in connection with the preliminary studies: "We are having a summer school this year, in which are students from other institutions as well as our own and by working eight hours a day they can accomplish the required number of hours in a very short time."

But to return to the report. Mr. Abraham Flexner, in his address on the "European Side of Medical Education," says:

> In respect to the education standard reached by its students [the German University], in respect to the intelligence and capacity of its teachers, in respect to laboratory and clinical facilities, every medical school in Germany surpasses, and far surpasses, what any state in America lays down as a minimum requirement. There is, I repeat, no uniformity and not in all Germany is there a feebly equipped or a feebly manned medical school or a heterogeneous body of medical students.

This is high praise. Probably the reason why our American medical colleges do not make a better showing can be inferred from a sentence in the discussion of this address by Dr. George Dock. He says:

> It is a well-known fact that the ideal of study in secondary schools and colleges is not exactly the one that scholars hold. I think it can be said, without any great risk of contradiction, that the chief idea of American youth is to learn life, to learn men; and many of them, when they go to college, frankly admit they do not like to study, do not care to learn philosophy, logic, grammar, mathematics or biology, but to learn life, learn manners, learn how to get along with and to manage other men.

It is this difference in viewpoint of the student himself that makes the great difference in the characteristics of the educational systems of the two countries and places the superiority upon the Continental schools when viewed by a pedagogue. Whether it would be desirable to introduce into our American life a German or French standard, displacing our own conditions, is a question worthy of discussion; for there is a possibility that more would be lost than gained by the transfer. This fact, however, ought to be kept in remembrance at all times and due allowance made for it in any investigation regarding educational processes in the United States.

Dr. Jacobi is not so enthusiastic over the German gymnasium students as Mr. Flexner, probably because he had been one, while Mr. Flexner only studies them. He said:

> There is one thing some complain about which is that the German student is by no means so well disciplined and industrious a boy or man as one would be led to think from the remarks of Mr. Flexner. We have been told here this morning that the student has acquired this discipline in the German gymnasium and so on. That may be true, but this discipline has not been strict enough, for what they complain of in Germany, all over, is that the students of theology and philosophy, particularly those of theology, waste a good deal of their time because they take it out in faith any way, and the same may be said of the medical student, but not to such a great extent. Dr. Mueller complains—he is certainly one of the most eminent clinicians in Germany now—that very frequently a year or two is thrown away.

Dr. W. B. Cannon, of Boston, discussing the same paper, refers to the fact already noticed in this review in which he says:

> Another factor which I think is unfavorable to the appearance of spontaneity is the rigidity of the medical curriculum. That matter has been referred to. We lay down a definite course which fills up so much of a man's time that very little time is left for him to manifest any independence which he may have.

President Judson, of the University of Chicago, thus formulates the conflict at work in the effort to determine what should be taught to the medical student.

> There are two conflicting forces that work in the training for any profession. One of these is the fact that in a profession like yours the young man must learn the manipulative processes when his fingers and body are flexible, when he can be trained to form what was wisely said in one of the addresses this morning to be that instinctive thing that does not need any thought any more than the player on the piano whose fingers fly over the keys. Of course that involves getting the student early.
>
> In the second place, the student should have a breadth of intellectual development which comes from years of study in many things besides the immediate sciences which lead to medicine.

He asserts the necessity of the revision of the elementary education whereby time can be saved and the proper opportunity be given to the operation of the two conflicting forces.

In discussing this address of President Judson, Mr. Kendric C. Babcock, of the United States Department of Education, admits the possibility of saving time as suggested by President Judson, and adds:

> Part of the gain on the other hand should come from more judicious selection. I am very much more concerned about the process of selection of material for admission to college than I am about the time and unit value. There

> is no question in my mind that reliance on a high school education is better than the preceding dependence on examinations alone. But I must say very frankly that I believe reliance solely on a high school education is becoming more unsafe for the simple reason that the high school is not improving in the direction in giving in the most desirable way the training demanded for professional courses.

But enough has been quoted to show the necessity, worth and value of this report which should be read and pondered over by everyone interested in the subject. The most hopeful aspect of each succeeding report is the broadening outlook, treating the subject in a more liberal manner, looking to evolving a physician rather than to grind out merely practitioners.

3.

This is the first report of the new Bureau of Medical Education and Licensure in the state of Pennsylvania, and as one reads the condition of Pennsylvania medical schools, if he be a citizen of the Keystone State, he will feel proud of the condition of medical education in Pennsylvania, albeit the report is written with considerable Philadelphia hyperbole.

There are several sentences in the report that afford food for thought. Speaking of the new board, "Realizing its responsibility in the protection of the people of this state from unqualified medical practitioners" it proceeds to indicate added work for medical students and describes the results of its inspection but not a word is said regarding the really unqualified medical practitioner, who, while not permitted to assume the title of doctor of medicine, preys upon the people under various soubriquet. If medical practice acts are the exercise of the police function of the state, then the crying need is not to increase the qualifications for the degree of doctor of medicine or improve the teaching in the medical schools, but to rid the state of those who are waging a guerrilla warfare.

Speaking of their inspection, in which "A full half day was given to each institution, the minimum amount of time spent being four full hours," the report says: "The results of this inspection, which we believe to be the only thorough and efficient one ever made of the medical schools of Pennsylvania." What reflection upon the work of the Council on Education of the A.

M. A. to say nothing of Mr. Flexner's investigations for the Carnegie Foundation!

Of the inspection itself, the report is impersonal and one does not know where to turn to study the conditions which are held up as models. Thus, when it says: "The medical laboratory at one institution has so developed this system as to leave little room for improvement and the whole equipment and conduct of instruction is a model which well might be followed by others," it seems a pity that the name of the institution was not given in order to give efficacy to the recommendation. Indeed, the whole report fails where the Carnegie report succeeds. The latter gives its praise and expresses its condemnation upon individual schools. This report fails in both.

We cannot praise everything which is lauded in the report. For example: "In one laboratory every student was required to model in clay each bone of the body, producing a perfect facsimile of the actual bone copied in every detail." The query arises if this be the best use made of the medical student's time in a course already so burdened as to be almost to the breaking point.

We should like to have seen a calm, dispassionate statement of the results of investigation, specifying alike the strong and the weak points of each medical school in Pennsylvania but this the report has failed to do. CHARLES MCINTIRE.

THE DIFFICULTIES AND EMERGENCIES OF OBSTETRIC PRACTICE. By COMYNS BERKELEY, M.A., M.D., B.C., Cantab., F. R. C. P., Lond., M. R. C. S., Eng., and VICTOR BONNEY, M.S., M.D., B.Sc., Lond., F. R. C. S., Eng., M. R. C. P., London. Cloth, $7.50. P. Blakiston's Son & Co., Philadelphia, 1913.

As stated in the preface of this work, its object is to afford practical guidance to the practitioner when he is called upon to deal with the difficulties and emergencies that attend obstetrical practice. The physiology and management of normal pregnancy and labor are not included in this work. The scope of the book, therefore, is rather different from the average work. It should, we think, prove a great boon to the general practitioner and all those who are largely engaged in obstetric practice. It will not be possible, in the space allotted to us, to take up the different subjects treated of and mention the good qualities of the book.

The early portion of the book takes up the disorders of the various organs of the body, *viz.*, the intestinal tract, the nervous system, circulatory organs, etc. Following this comes a considerable space devoted to the various infections diseases and specific diseases. Each of these sections takes up its specific subject carefully to meet the usual wants of the practitioner when he has need to refer to any book on a subject of this kind. The symptomatology and diagnosis under each subject are very succinctly treated. The systematic arrangement of the book adds very much to its usefulness. The accidents of pregnancy and labor are particularly thoroughly treated. To cite an example, under disorders of the urinary tract the subject of albuminuria is treated of very fully in twelve pages and yet the subject is taken up so thoroughly that any practitioner, even with limited experience, should readily be able to differentiate between the albuminuria due to pregnancy and the albuminuria which is associated with more serious conditions of nephritis. Also the clinical manifestations of eclampsia are well described and systematically arranged. The treatment of this serious condition is systematically stated and yet so well arranged that it can be readily comprehended by the reader in a very short time. The various complications of labor, such as hemorrhage, malpresentation of the child, anomalies of the pelvis, are fully described and their treatment accurately mapped out. This work should certainly find a place on the shelves of those who are treating many cases of obstetrics.

E. M. GREEN.

NOTICES.

A STUDY OF HEREDITY IN EPILEPSY. By EVERETT FLOOD, A.M., M.D., and MISS MARION COLLINS. (Reprint.)

This is a careful study based upon a full investigation of the pedigrees of 78 of the patients of the Monson State Hospital with some pedigrees of allied families, making 90 in all. The conclusions are as follows:

> 1. We have no conclusive evidence that alcoholism in the parents is a cause of epilepsy in the children, although alcoholism is often associated with epilepsy. It may be regarded as a concomitant of epilepsy and an additional evidence of nervous weakness.

2. Feeble-mindedness is also associated with epilepsy and there is some evidence that it is caused by the same defect that caused the epilepsy.

3. Fitting the material to the two hypotheses, first epilepsy is a recessive trait that is inherited only as epilepsy and second, that epilepsy, feeble-mindedness and insanity are due to the same defect which may appear in the form of any one of them, there is no striking evidence in favor of one to the exclusion of the other. The truth probably lies somewhere between the two.

4. While we are not in a position to say at present whether every case of epilepsy is inherited or to say in what proportion of cases it is inherited, we can say that in a large proportion of cases there is some nervous defect on both sides of the family, extreme nervousness, migraine, alcoholism, sexual immorality and lack of moral sense.

THE ROLE OF THE NERVOUS SYSTEM AS AFFECTING THE SYMPTOMATOLOGY OF DISEASE, AND THE INFLUENCE OF DISTURBANCE IN ITS FUNCTIONS ON MORBIDITY. By H. A. TOMLINSON, M.D. Reprinted from the *American Journal of Insanity*, January, 1913.

There is a pathos and a feeling of sadness in opening this pamphlet, for it is in all probability the last contribution made by the distinguished author. Dr. Tomlinson had promised a paper for the Minneapolis meeting of the Academy, but he was seized with the illness that resulted fatally, before he had the opportunity to prepare it. The paper under review might be characterized his legacy; it is to be hoped that someone will continue the studies therein suggesed. The opening sentences give the thesis:

> Through a number of years of observation of the symptomatology of disease, both in the sane and in the insane, I have noted and recorded certain manifestations that seem to me to vary in their incidence and prominence according to the condition of the general nervous system in the individual, and to bear no definite relation to the diseased condition present or to be influenced by its severity. These clinical observations have been supplemented by studies made post-mortem, so that there has been the opportunity for comparison between the symptoms, physical signs, and other evidences of morbidity, with the disclosures at autopsy. The conclusion has been reached, as the result of these observations and comparisons, that the nervous system has a more considerable influence than is credited to it usually, in determining both the symptomatology and the morbidity of disease in the individual, and, that, therefore, a careful study of the functional capacity of the general nervous system should be an essential part of the examination of the person who consults us; and particularly so if he is suffering with chronic disease.

It is well to keep in mind that this paper was read at a meeting of the American Medico-Psychological Association, and was addressed to alienists. But it has a broader import, the suggested investigation will help to rationalize the wild vagaries of mental healing, and bridge the chasm that now separates the purely physical from the psychologic.

In addition to an investigation of this kind which, if productive of any results, will be valuable and intensely interesting there is an important social feature which might require the arising of a prophet of the Old School to cry aloud and spare not. Dr. Tomlinson recognized this in the following:

> I believe it may be accepted as a fact that the principal result of modern social conditions has been the disproportionate development of the nervous system at the expense of the rest of the organism, without a corresponding increase in vegetative capacity; and the result has been that this unequal development has lessened the vitality of the organism as a whole, and lowered its resistance; while the nervous system requiring a disproportionately large share of nutriment, and failing to get it, has its potentiality lessened and is therefore more unstable without normal relation to the rest of the organism, or, in physiological terms, its irritability is increased, while its capacity for reconstitution is lessened, the result being the continuous tendency to react excessively to small stimuli.

THE HEALTH OF THE WORKERS. By C. E.-A. WINSLOW. Printed and distributed by the Metropolitan Life Insurance Company for the use of its policy-holders. 1913.

Prof. Winslow in this pamphlet presents a readable, easy-to-be-understood account of the dangers from occupational diseases and methods for their prevention. Its distribution cannot fail to be a means of popular education and a creator of sound public opinion.

THE LIFE INSURANCE COMPANY AS A DYNAMIC IN THE MOVEMENT FOR PHYSICAL WELFARE. By EUGENE L. FISK, M.D. (Reprint.)

Dr. Fisk claims that the efforts put forth by some life insurance companies is not only a good business venture for the companies—the prolongation of life saving them money—but of direct benefit to the policy-holder as well. "The prolongation of life is the end that justifies the financial expenditure, but the immediate work in hand is to make life more livable."

Among other items, he suggests "a system of free, annual medical examinations, for the purpose of detecting disease or disease-tendencies at the earliest possible moment."

The *Alienist and Neurologist* for May is an interesting number, presenting several articles that are of interest to the medical sociologist as well as to the alienist.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list records the publications received (other than periodicals in exchange) from May 16 to July 21, 1913, inclusive.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Bureau of Labor:

Bulletin No. 112, Decisions of Courts and Opinions Affecting Labor in 1912.

Bulletin No. 114, Wholesale Prices, 1890 to 1912.

Bulletin No. 115, Retail Prices, 1890 to February, 1913.

Bulletin No. 116, Hours, Earnings, and Duration of Employment of Wage-earning Women in Selected Industries in the District of Columbia.

Bulletin No. 119, Working Hours of Women in the Pea Canneries of Wisconsin.

Chicago School of Civics and Philanthropy:

Bulletin No. 13, Oct., 1911, City Welfare.

Bulletin No. 16, July, 1912, The Housing Problem, Literature in Central Chicago Libraries.

II. Families in Furnished Rooms.
IV. The West Side Revisited.
V. South Chicago at the Gates of the Steel Mills.
VI. The Problem of the Negro.
VII. Two Italian Districts.

Finding Employment for Children who leave the Grade Schools to go to Work.
Securing and Training Social Workers.
English Poor-law Reform.
Women in Industry: The Chicago Stockyards.
Neglected Widowhood in the Juvenile Court.
The Child in the City.

Bulletin, Vol. X, 1, March, 1913, of the Training School at Vineland, N. J.

Proceedings of the American Philosophical Society, Vol. LII, 208, January-April; 209, April, 1913.

Fortieth Annual Report of the New York State Charities Aid Association for the year ending September 30, 1912.

Report of the Board of Charities of the State of Connecticut for the years ending September 30, 1911 and 1912.

Report of the Connecticut State Board of Health for the years 1911–12.

Report of the Proceedings of the Third Annual Pennsylvania Conference of Tuberculosis Workers.

Eleventh Annual Report of the Bureau of Science for the year ending August 1, 1912.

Nineteenth Census of the United States, 1910, Vol. VII, Agriculture. Reports by States, Nebraska-Wyoming, Alaska, Hawaii, Porto Rico.

Report on Post-Mortem Examinations in the United States by the Public Health, Hospital and Budget Committee of the New York Academy of Medicine. (Reprint.)

The Lilly Scientific Bulletin, Series 1, No. 3, June 20, 1913.

Mortality Statistics, 1911.

The Activating Motives of Professional Conduct. Henry S. Munro, M.D., Omaha, Neb. (Reprint.)

Sane Eugenics. Maximilian P. E. Groszmann, Pd.D., Plainfield, N. J.

Retarded Mental Development in Children. E. Bosworth McCready, M.D., Pittsburgh. (Reprint.)

The Psychology of the Personal Interview: Its Relation to Moral Development through Penal Institutions. Eugenics and the State. Rufus Bernhard von Kleinsmid, Jeffersonville, Ind.

Contagious Diseases: Their Prevention and Control in Children's Institutions. James P. Leake, Assistant Surgeon, United States Public Health Service.

A Comparison of the Hydrotherapeutic Methods at Aix-Les-Bains and Virginia Hot Springs. The Cure at Hot Springs, Virginia. Guy L. Hinsdale, A.M., M.D.

Report of the Commissioner of Education for the year ended June 30, 1912, Vols. I and II.

Journal of Proceedings and Addresses of the Fourteenth Annual Conference of the Association of American Universities.

Bureau of Mines:

Bulletin No. 55, The Commercial Trend of the Producer-Gas Power Plant in the United States.

Bulletin No. 62, National Mine-Rescue and First-Aid Conference, Pittsburgh, Pa., Sept. 23–28, 1912.

Technical Paper No. 38, Wastes in the Production and Utilization of Natural Gas and Means for Their Prevention.

Technical Paper No. 48, Coal-Mine Accidents in the United States, 1896–1912.

United States Geological Survey:

Bulletin 522, Portland Cement Materials and Industry in the United States.

Water-supply Paper No. 315.

The American Underwriter, xxxix, 5, May, 1913.

Bullettino Della Reale Accademia Medica di Roma, Anne xxxviii-Fascicolo I–II, III–IV, VI–VII–VIII.

Report of the Proceedings of the Second Quadrennial Council of the Federal Council of the Churches of Christ in America.

Thirty-ninth Annual Report of the Executive Committee of Saint Luke's Hospital, South Bethlehem, Pa., October 18, 1912.

INSTITUTIONS OF LEARNING.

California, Leland Stanford Junior University, Bull. 2d s, 68, Ap., 71, Je., '13; Register, 1912–'13. University of California, Education Publication, Vol. 3, No. 4, May 15, 1913. *Canada*, Queen's University, Medical Faculty, Publication No. 7, University of Toronto, Calendar, 1913–'14. *Colorado*, University of Colorado, Studies, x, 2, May, '13, Bull. xiii, 4, Annual Announcement, Ap. '13. *Connecticut*, Wesleyan University, Bull. vii, 1, May '13. Yale University, Report of the President, 1912–'13. *Delaware*, Delaware College, Bull. viii, 4, May; ix, 1, Ap., ix, 2, May '13. *Illinois*, Eureka College, Bull. xii, 1, Ap. '13. Northwestern University, Cat. 1912–'13. University of Chicago, Circular of Departments of Political Economy, Political Science, History, Sociology and Anthropology, Bull. xiii, 2; Announcements, xiii, 3, Circular of Information, xiii, 3, Ap. '13. Wheaton College, Cat. 1912–13; Bull. xii, 2 and 3. *Indiana*, Earlham College, Cat. 1912–13. *Iowa*, Coe College, Courier, xiii, 11, Je.; xiii, 12, Jl. '13. Parsons College, Bull. xii, 8, Je. '13. Upper Iowa University, Cat. 1912–'13. *Kentucky*, University of Kentucky, Agricultural Experiment Station, Bulls. No. 169, No. 170, No. 171. *Louisiana*, Louisiana State University, Cat. 1913. University of Minnesota, Bull. xvi, 9, Je.; xvi, 13, May '13. *Missouri*, Central College, Nile-Green and Black, vi, 5, Jl. '13. University of Missouri, Bull. i, 2, Ap. '13. *Nebraska*, Doane College, Cat. 1912–'13. University of Nebraska, Agricultural Experiment Station, Press Bull. No. 41, No. 42, No. 43, No. 136, No. 137, No. 138. *New York*, Hobart College, Bull. xi, 3, Ap. '13. New York University, Commerce Bull. vii, 19, Mr. '13. *Ohio*, Eclectic Medical College, Bull. iv, 1, Je. '13. University of Cincinnati, Record, s 1, ix, 5, Mr.; ix, 8, Je. '13. Western Reserve University, Bull. xvi, 4, May '13. *Pennsylvania*, Bryn Mawr College, Cat. 1913. University of Pennsylvania, Bull. 13 s, No. 5, Pt. 2, Je. '13. *Rhode Island*, Brown University, Announcement of Courses, 1913–'14; Bull. x, 1, May '13. *Virginia*, University of Virginia, Alumni Bull., vi, 3, Jl. '13. *Washington*, University of Washington, Cat. 1913. *Wisconsin*, University of Wisconsin, Cat. 1912–'13.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. Jean Dardel, Aix-Les-Bains, France; Donly C. Hawley, Burlington, Vt.; Henry Bixby Hemenway, Evanston, Ill.; H. O. Marcy, William J. McGurn, Boston; H. A. Tomlinson, Willmar, Minn.

BULLETIN
OF THE
American Academy of Medicine.
(Specializing in Medical Sociology.)

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THE AMERICAN ACADEMY OF MEDICINE is not responsible for the sentiments exprest in any paper or article publisht in the BULLETIN.

ILLUMINATION FROM THE STANDPOINT OF MEDICAL SOCIOLOGY.[1]

By PERCY W. COBB, B.S., M.D., Physical Laboratory, National Electric Lamp Association, Cleveland, Ohio.

We are prone to think of our senses in a most fragmentary way. We commonly appraise our senses of sight and hearing, for example, as avenues for the reception of written and spoken language, as making possible the performance of the details of our daily activities, and as protection against accidents which without them would easily befall us. Of the deep import of especially the three senses of sight, hearing and touch, to our intellectual life we think little. And yet, the very fundamental and perhaps innate conceptions of time, space and matter which are the very foundation stones of intellectual life are, with their relations one to the other, mainly dependent on these three senses for their existence.

That this is now held to be true is shown by the fact that in our educational systems of the present day from kindergarten to post-graduate course, practical first-hand sensory experience has so largely displaced the old didactic method of teaching. Present-day students of all ages make use of their own eyes, ears and fingers in direct observation instead of sitting still to have second-hand knowledge poured into them.

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[1] Read before the American Academy of Medicine at the Thirty-eighth Annual Meeting, Minneapolis, June 13, 1913.

Lack of time forbids more lengthy discussion of this point, further than to emphasize the fact that loss or impairment of one of the senses is a loss much more profund than its immediate and obvious results would make it appear. It is a loss of fully as much consequence to the mental life as impairment of the digestive, respiratory or circulatory function is to the physical. It results in what we may call intellectual malnutrition.

It is a somewhat anomalous situation on which the engineer (or physicist) becomes interested in physiologic problems; and yet every engineering problem has the final purpose of supplying some physiologic need. This is usually so remote that the engineer does not need to concern himself with it. He leaves to the individual, the physician, the hygienist or the legislator, the question, for instance, of what articles—food, clothing, drugs, or what not—shall be transported over the avenues of commerce which he constructs and how these shall be used at their destination. His dealings are entirely with the physical entities—matter and energy. These are the means which he is called upon to work into ends.

But in certain problems he goes along way astray if he denies responsibility for the results which his work may bring about, for his profession, first and always, has the ultimate object of supplying some need which has a physiologic bearing upon humanity, which enlarges human life by contributing to its physical, mental or esthetic growth and activity, and in some cases this end lies very near to the engineer's work. In such cases, if in the struggle for so-called efficiency he merely attains a greater result with an equal immediate expenditure of wealth, and neglects a more insidious damage to human health and safety which in the course of time comes about from his work, he must, from every human standpoint, be considered a failure.

The illuminating engineer has realized his responsibility in this particular. His activity is in the proper supply of light, either artificial or daylight, to the consumer. If he seeks to do this only so as to get the most light for the least money, he is a failure as an illuminating engineer, for of the three senses which are paramount in the acquirement of knowledge, in the use of the intellect and in esthetic life, the one which concerns him is perhaps the most highly appraised—vision. And it is the very one which we know, by clinical experience, to be the most delicately adjusted and the most subject, in its working, to conditions outside the body. The otologist finds abundant work to do, but how often can he make the acoustic environment of the patient appear to be even a contributory factor in ear trouble? It is true, there is occupation deafness, but only in special cases where the subject is exposed to noises that from their intensity can fairly be considered traumatic. These cases are the few demanding special protection and not the many. Such an expression as "ear-strain" is unheard of.

On the other hand, we do know that in certain cases, eye troubles may be the direct result of light of extreme intensity or of peculiar character. The chief representatives of this group of eye-troubles are electric ophthalmia and snow-blindness, anatomically characterizied by an intense inflammatory disturbance of the conjunctiva and sometimes the cornea, and are always traceable to the exposure of the eyes to light under peculiar conditions, either to the radiation from an electric arc light of some description, often to an accidental flash due to a large amount of energy, as in a power-station, or in the case of snow-blindness, to prolonged exposure to sunlight reflected from the snow, usually in high altitudes. The conditions, however, which result in such disturbances are always unusual, and no fear need be entertained as to any such trying results from the ordinary use of our modern illuminants. They are, moreover, outspoken and easily recognizable, and the means for their prevention well known and simple of application. This, taken in connection with their relative infrequency of occurrence, makes them a group of eye-troubles of very small general interest.

It is different in respect to the use of the eyes, day in and day out, by the millions whose time is occupied in our schools, factories and offices throughout the country at work demanding close application of the eyes. Whereas, it might be and is difficult to demonstrate in any particular case just how any damage to the eyes may come about through a faulty illumination, yet the overwhelming number of individuals concerned and the clinical knowledge that the eyes can suffer from improper lighting, make the problems that arise in lighting the work places of these millions sufficiently important to demand the attention of the best specialized skill that the country can produce.

Not many years ago, when the Illuminating Engineering Society in this country was in its early infancy, there was question raised in some quarters as to its excuse for existence. Members of such a society, it was said, could be concerned only with questions of the installation of lights, and electrical and gas engineers could already do that. Editorials and other articles, often of depreciatory tone, appeared in the journals under heads such as "What is an Illuminating Engineer?" But the past few years have answered such questions, and the Illuminating Engineering Society has justified its existence.

That organization is now proud of a membership that numbers something over thirteen hundred. Of these many are attached, in various capacities, both technical and commercial, to large concerns whose activities are contributory to lighting—by both electricity and gas. There is another group of members whose occupation is teaching, men connected with our prominent educational institutions in the departments of engineering, still another professional group who appear as consultants in engineering practice, and lastly a group of scientific men whose time is devoted to investigation of questions dealing with the production, measurement and utilization of light. The bulk of the membership is perhaps comprised in these groups. There is, however, a note that rings out in the ears of one who watches the activities of the Illuminating Engineering Society and that is a humanitarian tendency. The questions of the proper application of light, its adaptation to the particular purposes to which it is to be applied, and the protection of the user from possible harm due to the improper use of light, or his protection from accident in general, as far as it can be secured by properly lighting dangerous places, the satisfactoriness of the lighting system to the user, and the pleasant or unpleasant impression it may make—all of these points are prominent in the discussions that ensue whenever the members come together.

Perhaps an outline of a few of the special activities of this society may be of interest. One of these is the recommendation and attempt to secure legislation looking to general protection as far as concerns factory lighting. The governor of New York State has recently signed a bill which prescribes, among other things, conditions for the proper illumination of dangerous places about machinery, and in halls and on stairways, and also touches the question of the illumination of work places so as to avoid glare and undue strain upon the eyes. These provisions were drawn up in accord with the recommendations of the Committee on Factory Lighting Legislation of the Illuminating Engineering Society.

A second committee is studying the question of glare from reflecting surfaces—notably the reflection from highly calendered paper. Its activity at present centers about the books used in schools, and it is now getting in touch with paper-makers, publishers and school-governing bodies, and collecting information as to the possibility and practicability of the use of a perfectly matt-surfaced paper and a matt printing ink in school books, and the establishment on some such basis of a standard of book-making for school purposes.

The question of education is not being neglected. A definite movement is on foot to coöperate with universities and technical schools and to get a special course in illumination made part of the curriculum in the technical schools. Another subsidiary body has charge of the question of popular lectures in illumination to be given before such lay bodies as may be interested.

The past year has seen the production of an Illumination Primer. This is a brief, illustrated pamphlet, prepared with the greatest care, and setting forth in simple language and clear pictures the fundamental practical considerations in the matter of illumination so that they can be successfully applied by the intelligent reader who is without technical learning. The pamphlet itself has already found a wide circulation and has been reprinted in full in a number of technical journals.

And finally, within the last year or so, the policy has developed of systematically getting in touch with other societies who are or should be interested in the work of the Illuminating Engineering Society. A Committee on Reciprocal Relations keeps informed as to the large meetings of such bodies as might be interested, and undertakes to provide from the ranks of the Illuminating Engineering Society speakers before meetings—such, for instance, as the present one—with the aim that ultimately the two bodies may coördinate their activities in so far as these lie on common ground.

A discussion of the work being done looking toward the betterment of illumination conditions would not be complete, from the point of view of the present speaker, without a brief discussion of that phase of the work which is his special field, namely, the investigation of the fundamental principles upon which illumination depends. That this is not outside the interest of the Illuminating Engineering Society is attested by the fact that within its membership is a group of men, both attached and unattached to educational institutions, whose time is, in part at least, devoted to research in questions pertaining in every way to illumination. More than this, there is a Committee on Research composed of individuals of this group. This committee numbers among its members not only men whose interest is primarily in the physical aspect of illumination, but also an ophthalmologist, a physiologist and a psychologist—these last two having been chosen from the fact that the researches they have conducted on their own branches have had to do with the reactions of living organisms to light. The aim of this committee is to bring closer together the physical and biologic phases of the general question of light and to encourage original work in this line by suggesting problems and methods for their solution, along with suggestions as to the pitfalls on the way and precautions necessary to avoid them.

These questions are partly physical, relating to the production and measurement of light, but lie also to a considerable extent within the domains of physiology and psychology. This last group of questions should be of special interest to the present body, and without going into a detailed technical discussion it is proposed to outline some of the problems that appear to one who devotes his mind to the subject. Broadly, the problem is to provide a set of conditions, under which work may be done to the greatest efficiency—the greatest efficiency with respect to all considerations, with respect to the quality and amount of work done, with respect to the comfort of the worker and to his ability to continue at work with minimum of fatigue, both in the short run of hours, days or weeks, and in the long run of years, without undue impairment of his visual apparatus; and incidentally, although this is by no means unimportant, to promote the well-being of the worker by providing him with surroundings which shall be not only inoffensive to his esthetic sense, but which shall, if possible, be positively pleasing. It is not an idle statement to say that under pleasing surroundings work is done not only better and more efficiently but also with less strain and less impairment of strength on the part of the worker. And nearly every one can be made to see that a large fraction of the difference between pleasant and unpleasant surroundings lies in the manner in which such surroundings are lighted.

As to actual injury to the eyes themselves, it was pointed out that this might be due to certain qualities of the light. As an example, electric ophthalmia can be reasonably attributed to certain invisible radiations in the ultra-violet portion of the spectrum. But, as was said, injuries of this nature are not of prime interest in the general question of illumination as it relates to society at large, because they do not appear under usual conditions.

Rather than the specific character of the light, it is, in the opinion of the speaker, the distribution of the light that enters into the question of illumination as the chief factor to be considered. As far as concerns any possible injury to the eyes from artificial light sources as at present used by the rank and file of workers, this cannot be laid to either the quality of the light or to the entire quantity falling into the eye, for the very simple reason that by actual measurements in both respects—as to visible intensity and as to relative intensity in the ultra-violet region of the spectrum, artificial lights as at present used fall far below the values which obtain in ordinary daylight conditions.

The factor in illumination that enters into the genesis of eye-disturbance seems to relate to the distribution of brightness in the visual field of the worker. Just what is meant by this, and just what the physiologic problems are that are concerned in illumination can perhaps best be made clear by a few simple concrete examples. The filament of a modern incandescent electric lamp is, roughly speaking, *a million times* as bright as the objects which it illuminates. It has long been known that such an object in the field of vision is a distinct irritation to the eyes, especially when these are at the same time taxed by close work. Just what the physiologic mechanism of this disturbance is does not seem clear. It is markedly mitigated when the intense brilliancy of the filament is reduced and spread out over an apparently larger area, as by the interposition of a frosted glass surface, the total light falling into the eye remaining nearly the same. We may from this lay down a general proposition, that light falling upon the retina in too concentrated a way is irritating.

Again, a disproportionately large amount of light falling into the eyes—the same not being that reflected from the object which we wish to see—will reduce the apparent clearness of that object, the more so the greater the difference between the bright surroundings and the dark object. A familiar instance of this occurs when one attempts to scrutinize a picture on the wall close to a window. Here, apparently, the large amount of light coming from the window simply "drowns out" the retinal image of the picture—partly by the scattering of the intense light within the eyeball, and partly through the well known law of contrast. This latter is the explanation—as will be remembered—of the darker appearance of any object when seen on a light background, and its apparent brightening up when placed on a dark ground, and is a cardinal principle to be borne in mind in the question of illumination.

It must not be thought from the foregoing that the elimination of all bright objects except the direct object of vision is an end to be sought. Indeed the speaker has obtained results which seem to show the contrary, and indicate that the object of vision and its surroundings should be of about equal brightness. Such an arrangement has been shown to give visual discrimination equal or possibly better than that afforded by dark surroundings, and also seems to give more comfort to the eyes. The intensely local system of illumination, where each individual work place is illuminated by its separate light, close to the work, has the effect of placing the work in relative dark surroundings, and good practice has anticipated the result just stated, and condemns intense local illumination, in favor of a general illumination moderately intensified with local lights where necessary.

The objectionable features which have just been discussed all involve extremes of brightness of the objects within the field of vision; the exposed light-source, the high-light obscuring the relatively less bright objects and the intense local illumination of the work place all involve excessive contrasts. At present a system of illumination is rapidly gaining ground which has the end in view of reducing these high contrasts in the visual field toward a minimum. This is the indirect system—where the light source is concealed, throwing light upon the walls and ceiling of the room which in turn reflect the light and virtually become the light source for the occupants of the space. Thus are secured the maximum extent and minimum brightness of what is to the eye the light source, and the excessive contrasts are done away with. Such a system of illumination affords great comfort to the eyes, and is at present becoming a favorite one, especially where a restful and decorative effect is desired.

Indirect illumination, however, is not a definite and constant quantity. Within it there is a wide latitude for the exercise of discretion and judgment on the part of the engineer. Its characteristic feature is, as far as the eye is concerned, a very large light source of low brilliancy—but these two quantities, extent and brilliancy of the effective source, as well as its location, are still subject to wide variations. Increasing the extent of the light-emitting area has the effect of diminishing the depth and definition of shadows. Where the shadows are nearly or altogether done away with, the brilliancy of an interior is largely lost. It becomes flat and monotonous in appearance in a way that grows on one in the course of time and is apt to become depressing.

It is scarcely possible that the light-emitting areas in a room—

the sources themselves or the surfaces reflecting their light—shall be placed so that they never fall within the visual fields of the occupants. We may choose between small sources of high brightness, as in direct lighting, or extensive surfaces of low brightness, as in the indirect system, which shall throw sufficient light upon the working plane. Which we shall elect to use will depend greatly on the work. The former—light coming from focal sources and consequently having a definite direction and casting sharp shadows—will prove superior for work which involves vision of small solid objects, such as in a printing office. In other occupations shadows, unless carefully evaded, will prove an absolute hindrance, as for instance in a drafting room, where the T-square and straight edges may cast such shadows as to make work impossible. There is then no type of light installation to be generally recommended. In every case, where a number of individuals are concerned, the problem involves careful consideration of the work these have to do and the places they occupy, and the adaptation of the lighting system to these circumstances.

Then one more point has to be considered. What particular distribution of bright objects is to be allowed about each working place? Absolutely everything visible from there may send light into the eyes of the worker, from the light source down to the darkest corner of the room. What conditions in this respect are allowable in order that the eyes may not be unduly taxed? Some of these conditions have been touched upon. Others must and are receiving the attention of investigators. When we know just how much light we may throw upon the retina, and exactly how we may dispose it there—whether we may concentrate it in the tiny image of an ordinary light source, or whether we must spread it out into the much larger retinal image of say half the ceiling of the room to avoid ill effects in the eyes—we will have data which must be combined with those depending purely and simply on the requirements of distinct vision.

In brief, while the amount and distribution of light necessary simply to see the work in hand is of itself a problem not the same in any two cases, it is yet one whose method of solution is in any instance comparatively simple and obvious. The engineer may solve it without the help of physiology. The question, however, as to how it is best to fill the outlying portions of the workers' visual field, how much we may concentrate light upon small portions of the retina with which he indirectly sees objects—in short what extremes of brightness and what distribution of brightness his eyes may be subjected to—this question involves many factors obscure even to the physiologist and the eye specialist. It is a question which has as yet only begun to be worked out, and it is, in the speaker's opinion, the chief question upon which depends the illuminating engineer's part in preserving the efficiency of the eyes of the millions.

DISCUSSION.

Dr. S. D. Risley, Philadelphia:

Every medical sociologist should find cause for encouragement when a member of the Society of Illuminating Engineers is willing to travel so far and give us of his time in the discussion of this subject. As an indication of the trend of things toward medical sociology, I was requested by the Master Painters to discuss an allied question—"The Surfacing and Decoration of Walls and Ceilings in Public Schools and Hospitals." These questions are closely allied to the subject of illumination of such buildings. I am entirely in accord with the principles enunciated by Dr. Cobb. I regret that he did not give us more concrete examples of the quality of light and its distribution, because the sub-committees of their Society must have secured a vast amount of experience along these lines. It is not, as Dr. Cobb has said, a purely physical question but one closely allied to the hygiene, especially the hygiene of vision. I am not surprised that he found the results of his observations difficult to explain. I can only allude briefly to the physiologic and psychologic questions involved in any attempt at explanation. For instance, a person at work in a dark room in the circle of light afforded by his lamp soon becomes fatigued and only by the utmost determination does he continue his work and it is probable that his work under such conditions is not as satisfactory as it would have been under different and more favorable conditions of illumination. When a man is at work at the reading distance his pupils contract, his ciliary muscles contract and the eyes converge upon his work, under a common impulse conveyed through the third or oculo-motor nerve. When he turns his eyes to the dark surfaces of the room the pupil expands while both the accommodation and convergence impulse are relaxed, only to take up the strain again the moment he turns back to the work. This constant contraction and expansion not only causes fatigue of the eyes, but if you will recall how closely the oculo-motor nucleus is associated with or contiguous to other important structures at the base of the brain, the physiology of the fatigue is understood. The stereognostic centers in the cortex of the cerebellum to which the sensory impressions are distributed from the congested and weary area at the oculo-motor nucleus also become wearied and possibly confused. In this way we may explain not only the brain fag and general fatigue which comes on from work under improper illumination but also a possible explanation for the psychologic impressions to which Dr. Cobb has referred in his paper. We know what the hypnotist does. He overwhelms the sensory parts and when we lose our power of apprehension, that is to say, when stereognosis is impaired we become "hypnotized." The bridge between our objective and subjective brain is impaired and we no longer reason correctly. Now this is an exaggerated illustration of what the fatigue means when we are working in a brilliant center of light and looking up in a darkened room and under many other conditions which Dr. Cobb has suggested in his able paper. Therefore the suitable illumination of our work as students is an important hygienic as well as physiologic problem.

In 1894, in my work on School Hygiene, it was suggested that it was better to use a large number of electric lamps of low voltage than a small number of very white brilliant lights and that these should be as far as possible concealed; that this should be done by placing a large number of lamps around the walls of the room near the ceiling where they could be concealed from the observer below by a curved cornice. The light would then be thrown against the ceiling and from the ceiling the room would be illuminated. One of the faults in many schemes for indirect illumination is that the angle of incidence and reflection always being equal from any portion of the room, the moment the eyes were raised they would receive the reflected light at the angle of reflection from the ceiling. This is true when a group of lamps are placed in an inverted opaque bowl hung from the ceiling. This is true especially where the walls and ceiling have smooth, strongly reflected surfaces.

Dr. Helen C. Putnam, Providence:

I should like to ask Dr. Cobb what is the opinion of experts with regard to having the illumination on only one side of the school room, in a room, for example, with 40 to 60 children, some of them on the other side of the room, away from the light.

Dr. Cobb, closing:

There are so many points involved in the conditions mentioned by Dr. Risley that it is impossible to speak adequately upon all at this time. He spoke first in regard to the motor disturbance of the eye, the pupillary and ciliary strain of going from extreme light to extreme darkness. Of course we have also the external muscles of the eye which must suffer when vision becomes difficult and we have the retina, that wonderful structure of which we know so very little that it is hard to say definitely very much about it.

One well-established function of the retina is that of adaptation, by which it changes its sensitiveness for different intensities of light. This change may be of high degree and requires some time to become complete when it is extreme. If the change from dark to light, and *vice versa,* is made too rapidly and too frequently we can easily imagine that a disturbance might occur in the retina which in the long run would be a serious embarrassment to vision.

In reply to the question of Dr. Putnam as to the lighting of school-rooms, I would say that there does not seem to be any practice generally recognized as the best. With windows in the rear of the room there are the disadvantages that the pupils have to work in their own shadows, and that if the blackboards be at all glossy, reflections will be a disturbance when viewing it from almost any part of the room. In general, the lighting of such rooms from windows on one side has much to be said in its favor, since the shadows all fall in one direction and the pupil can readily adjust himself to avoid them. The difficulty under this condition is the relative darkness of the part of the room remote from the one wall provided with windows. This is increased, especially in our larger cities, by the proximity of tall buildings so that all of the direct light from the sky falls in a restricted part of the room near the windows. The solution of this problem lies in the use of prism glass in the windows which is designed for just such situations. The entering light may by this means be directed into a more nearly horizontal course, so that a fair proportion of it reaches the farther parts of the room. Such glass is obtainable, made for various definite angles of deflection, and the particular design for each case should be chosen by one familiar with the principles of illumination with as much care as to its suitability to the particular situation as would be used by the sociologist in devising a means to correct moral delinquency.

PRESENT-DAY AIMS AND METHODS OF STUDYING THE OFFENDER.[1]

By **William Healy**, M.D., Director Juvenile Psychopathic Institute, Chicago.
Associate Professor of Nervous Diseases, Chicago Polyclinic.

Present-day studies of criminalism aim at the development of a science—a science of adjustment of human relationships. The offender is out of line with the requirements of society; he presents himself as a social problem; the question arises how to get him to conduct himself within required bounds. The solution of the problem involves adjustment between social possibilities and individual tendencies. For rectification of anti-social conduct there must be self-developed or environmental control—in either case an adjustment.

It is quite fair to speak in this matter of developing a science because there is hardly a suggestion of its existence in the measures of adjustment which are offered under the auspices of the law. By its simplest terms a science implies delving into causes, and correlation of modifying activities thereto. Without such fundamentals there can be no science.

In dealing with criminalism by the canons of the law, attempt at regulation of conditions is based on standard *a priori* conceptions of the effectiveness of a scheme of social salvation which offers certain retributions for certain offenses. Adding to this the range of powers of judge and jury, and pardoning and parole agencies, we have in vogue a system which can be characterized only as very largely using a hit or miss method in the prescription of treatment as related to the desired end, namely, the protection of society. When personal judgment on the part of officers of the law is allowed play it is exercised without anything like full knowledge of the foundations of conduct in the individual. Indeed it is exercised by those who have not prepared themselves for judgment by study of the causative factors which lie back of anti-social behavior in general. So neither in the formulae of criminal law nor in the personal judgment of officials do we recognize that knowledge of antecedents and consequents which we always find at the foundation of any science.

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[1] Read before the American Academy of Medicine at the Thirty-eighth Annual Meeting, Minneapolis, June 13, 1913.

It is not only from consideration of methods that we come to realize the unscientific aspects of our dealing with the offender. Nothing is any easier than to produce living evidence of the absence of an applied science in that field. Is it necessary to do more than call attention to the fact that if some intrinsic condition of mind or body predisposes towards delinquency, as is frequently the case, still no cognizance is taken, as a rule, of this important truth? Or need we mention the well known fact that the offender after incarceration is turned back most often into the world not only no better equipped to avoid misconduct, but often perforce of his imprisonment so warped in mind and so socially helpless that commission of new offenses becomes at once the compelling idea. Why, the very deprivations and mental vacuities of cell life can readily be calculated by the principles of the most easily understood psychology viciously to strengthen in certain types the very obsessions which previously led to criminalistic deeds. Five years for crime against the person, the person of a child, a couple of months of freedom without surveillance and with several commissions of like offenses, another sentence of eight years—to view only one such case as this, in the light of what we know about abnormal psychology, gives something to the picture of the weakness of our unforesighted treatment of criminalism.

The notorious failure of both the past and present in dealing with the individual offender, evinced, save in the days of hanging for sheep stealing, by the astounding annals of recidivism, clearly demonstrates both the non-existence of any such science and also the need for its development. The point can hardly be made clearer than by the fact that out of 168,000 offenders convicted in England in 1910, 104,000 had been convicted previously, and 65,000 of these had been convicted more than two times before, and 12,000 of them had been convicted upwards of twenty times previously. Taking the major offenses in that same year, tried at the assizes and quarter sessions, we find that out of 11,300 convictions no less than 8,000 had been previously convicted. One instinctively asks, why this failure of adjustment? Was the prescribed treatment unsuited, or are a large number of the offenders innately impossible, or did the environment after release recreate criminalistic impulsions? Unfortunately, in the Blue Book of criminal statistics we find no trace of these important facts having been inquired into.

I said the proof of the non-existence of an applied science in the adjustment of criminal affairs could hardly be made clearer than by the citation of the above figures, but after all even that is not nearly so startling as is the fact that we in America have no figures at all to offer on recidivism. This means that the most vital knowledge, that knowledge which can give the only basis for self-criticism, is not even gathered. If we do not know whether the end aimed at by the law really is accomplished or not, what then do we know that can lead to any possible betterment of a situation that is universally recognized as altogether deplorable? In every progressive field of activity, in the development of every science that is making for man's welfare, there is constant measurement of the relationship between endeavor and result. Not so in dealing with criminalism.

A general summary of present methods of handling offenders could be made in simple terms. The law with its cut-and-dried formulae and its prescription of certain punishments for certain offenses has long ago decided the whole procedure. The word of the fathers prevaileth and the efforts which have made in every other field for the vast progress of the present are here quite neglected. There is not even inquiry into how much success or failure there is in the endeavor of the law, to say nothing of the differentiation of the causes of those failures or successes. As its own interpreters put it, the law judges all men alike. Whether he be made of steel or clay, the same method is invoked to straighten a man's moral defects, and all are presumed to react in the same way to legal punishments or to other environmental stresses.

Fair analogy might be found in the sister profession, medicine, if the teachings of the professors or the discussion of cases had to do wholly with the restrictions under which one must practise medicine and were not devoted to study of etiological factors and the effects of various possible treatments. Not but that plenty of legal rules will always be necessary for the safeguarding of the innocent, but the trouble is that the study of the matter ends there, and it is a fact that treatment is prescribed without reference to the causes of the offense, to the nature of the individual, or to the moral prognosis. Altogether considerable note is being taken of this state of affairs nowadays by the legal brethren abroad. In Germany, judges and other officials hold conferences and take courses on the scientific aspects of their problems of criminalism. The responsibility for the absence of such sources of instruction elsewhere rests largely on the shoulders of the legal profession which has not laid under contribution what other sciences could offer in explanation of the criminalistic phenomena which the law has under its observation.

The aim of present-day methods of studying the offender is to work with the material now presented to the law for solution and show such relationships between causes and results that a science shall be produced which shall deal first and foremost with predictabilities—the same as any other science of dynamics. Ranging anywhere from agriculture to pedagogy, this type of knowledge is considered most desirable; what will this and that organism do in this and that environment? to what extent are the proclivities of the organism modifiable? In the field of human conduct there exists an amount of predictability that has not heretofore been recognized. For this practical purpose a thoroughgoing study of the offender should be undertaken and altogether a different point of view, involving a much deeper search of truth, is to be maintained than what is now carried out under the bare formulas of the law, where there is little insistence on any of the causal facts. Yet the definitive aim of the law, namely, the protection of society, is the chief end of this science, too.

The end is, first and foremost, to render aid in the solution of the problem of the individual. It is always the individual himself, however dependent his career may have been upon the existence of baleful general forces, who is under consideration before the law. Secondarily, carefully made investigations and statistics should throw much light on general social situations, such as are provocative of criminality. The present loose talk about some of these influences shows clearly the absence of those complete investigations which, working by the scientific process of elimination, would not jump at conclusions without taking into account at least all of the obviously possible causes of misconduct in the individual. In the long run these safer conclusions will serve as the best foundations of some of the larger measures of social reform.

Coming now to the methods of the science to be developed, we may first insist that they are worth a careful consideration because to be convincing and to stand the criticism of those whom the science seeks to have as allies, the reasonableness of the methods must be apparent. The results, to compare with predictions, one must often await long for—to be sure, they, too, must stand scrutiny—but the steps by which one arrives at the prediction should themselves give evidence of rationality.

In the first place, we may observe that this developing science is intensely empirical. It seeks to learn facts, to deal with facts, and from facts to deduce conclusions for the individual case. The theorizing peculiar to a preceding criminology is to be discarded. The everlasting combat concerning free will and determinisn, the insoluble metaphysics of responsibility, the generalizations from superficial surveys, are all to be avoided. The time has quite gone by for characterization in swelling terms of crime as being due to some great causal phenomenon, or as being a disease, and we may hope nowadays for no further philosophizing about "the criminal" (strange phrase, as if offenders formed a distinct human species) being an atavistic or any other conjectural type.

Then the newer method of studying the offender perceives clearly the great scientific necessity for a well-rounded contemplation of its material, the human individual. The work of the externalists, the anthropometric school, can already be relegated to a minor place because all have concluded that human conduct has much deeper springs than may be tapped by the measurement of cephalic diameters or sensibility of finger tips. The danger of a too rapid pigeon-holing of human beings according to alleged explanatory types—a very real danger if a clamor for premature scientific verdicts should be set up in any quarter, say in court work—also is to be met by the insistence on thoroughgoing studies before prognosis is offered.

This newer and deeper study will be inevitably time-consuming, even for the well trained. In this one fears the source of much objection, but no one doubts the complexity of criminalistic genetics and no one cares for unsafe conclusions. Above all, the profession which spends days and weeks in preparing for and trying just one aspect of a criminal case should be the first to uphold intensive work in this wide investigation.

The roots of misconduct may be found in (*a*) outer circumstances or influences, past or present; (*b*) in physical make-up, discernibly structural or as thought of in terms of function or inherited or congenital conditions; (*c*) in mental defects, aberrations or peculiar traits; (*d*) in mental habits, imageries, conflicts and repressions—or in any combination of these various prime sources. A one-sided study of the offender is not to be thought of as fruitful of the best results, except in cases of well marked mental defect or aberration, or where physical disease or defect stands in strong causal relationship to misdoing. It must be acknowledged, however, that there are many indications that mental defect forms the largest cause innate in the individual and we know full well the role that a single disease, epilepsy, plays in criminalism—our group of a thousand young repeated offenders showing about seven per cent. certainly epileptic. So investigations carried out far enough to discriminate these human disabilities would be of vast service, especially since the very worst crimes are committed by these types, that is, if society could then see the necessity for treating the offender in the light of accurate diagnosis and prognosis. But even here why should we be content without going farther and ascertaining the causal background for these two important infirmities and deliberating measures of prevention.

Detailed accounts of a modern scheme of studying offenders have been offered in the two reports issued by Committee A of the American Institute of Criminal Law and Criminology. These show separate items of information and groups of facts for investigation. These again can be classified into sociologic, medical and psychologic data. Which class of facts is of greatest importance it would not be easy to state. But ascribe as we may the main cause of delinquency, either in the individual or in environmental conditions, we can never logically or scientifically get away from the fact that all conduct, good or bad, is an attribute of mental life. Every factor influencing conduct works *via* the mind. That not all action is controlled by the higher consciousness does not militate against the truth of this. Just as surely as all volitional power is aroused in the cerebral cortex, just so certainly is all action a function of mind and is directly dependent on the integrity of the central nervous system. In evaluating the relative importance and the effect of various causal agencies, even environmental, he reckons ill who leaves out the world of mental processes with their most direct relation to misconduct. Even a brief consideration of this point will make it stand out clearly.

In general, the study of mental quantities and qualities may be spoken of as a differential psychology. In this investigation of roots of criminalism one is looking for those mental states which act as driving forces of conduct. We must include estimation of mental defects, aberrations, obsessions, instabilities, impulsions, irritations, repressions, worries, conflicts, imageries, grudges and suggestibility. We are bound to become involved in a study of what John Stuart Mill and several German authors call characterology. Of course it is necessary to look farther and record and combat every possible condition which aroused the activity of these driving forces. But the most immediate point of contact with causes is to be gained by employment of the knowledge which has been developed, a good deal of it quite recently, in the field of abnormal psychology.

Survey of this rational investigation of the offender leads at once to the conclusion that not half of the facts necessary for explanation of the individual career were sought for under the older criminology. The development of mental tests alone has done more to awaken real understanding of the bases of criminalism than whole volumes of philosophic generalizations. Many a so-called born criminal is merely a mental defective influenced towards crime by his environment. Similar, but unoffending, types are to be found segregated in any large institution for the feeble-minded.

We are brought now to one big consideration concerning the present-day methods of studying the offender. They are not proceeding, as formerly, along the lines of the natural history sciences. The inner life is now perceived to be perhaps of more importance than anything else. Sizing up a man's reaction to his environment without knowledge of what may be going on within him which directs that reaction is no longer scientifically allowable. Even in mental defectives the mental life, for instance the peculiar suggestibilities, and lack of powers of moral inhibition which are found in varying quantity are of great interest and indeed of importance in predicting the outcome of a career. It all comes to the point, as Devon says in his admirable work on "The Criminal and Society," that we cannot study the criminal as a man studies a beetle. We have rather to study him as a man studies his neighbor.

There can be no doubt that the application of these outlined methods will lead to much criticism of the treatment and procedures now in vogue. But why not? Why should one hesitate any more than the modern agriculturist hesitates to declare his judgment of last year altogether wrong in the light of recent researches? Has the past proved itself infallible in any other human endeavor—why should we believe that the law has had the last word on effectiveness of a scheme of adjustment? One benignant feature of this whole contemplated work will recommend itself highly and that is that through this logical method of inquiry into why there is social failure one finds an astonishingly easy path of approach to the problem. Not to the same extent in other courts as in the Juvenile Court work it will be found but nevertheless everywhere the plan of scientific inquiry, in contradistinction to the police and court room attitude, wins friendly cooperation.

The practical ends achievable by careful study of the offender are, as hoped, mostly in the way of predictabilities. One can see definitely that there are certain individuals who must inevitably be segregated for their own happiness and for the peace of society—these are the mental defectives and the insane and the epileptic criminals. One discovers the existence of physical defects without the remedy of which one can definitely say there can be no social success. One can discover specialized mental defects and peculiarities which have brought about great social irritations through the endeavor of fitting a square peg into a round hole. One comes to know of various hidden habits of mental life which stand in an immensely causal relationship to delinquency. One can find unsuspected vocational aptitudes through which the delinquent can hope to gain only that first requisite for moral life, namely, healthy mental interests. And then there is the field of mental conflicts and repressions which has only begun to be explored. Knowledge of these and of many more factors in criminalism, to say nothing of environmental conditions, is practicably achievable through careful study, and through this study can be seen to form the only safe foundation for predictability and social treatment.

THE PHYSICIAN IN THE SERVICE OF CRIMINOLOGY.[1]

By ROBERT H. GAULT, PH.D., Associate Professor of Psychology, Northwestern University; Editor Journal of Criminal Law and Criminology, Evanston, Ill.

In the year 1906, 26 per cent. of laborers who were stricken in health while engaged under the government in Panama, were suffering from malarial fever. Six years later those thus afflicted amounted to $^1/_2$ of 1 per cent. of the total. This represents a distinct triumph on the part of physicians and men of allied professions in the prevention of disease. It alone makes it possible for our nation, a great social organization, to express itself in one of the greatest engineering feats that the world has seen,—a performance that must certainly have failed ignominiously, in spite of our engineering facilities, had it not been for the issue of biologic and medical observation which cleared the way and prevented early disaster. Prevention is the great word in the vocabulary of the physician and his allies. One cannot but reflect, to their credit, that from a narrowly selfish economic point of view they could never have adopted it.

With the growing emphasis upon the biologic and mental aspects of life we are standing at a distinct angle from which to approach the problem of the prevention of the development of criminals. In this day the goal of prevention looms so large among criminologists that one may say, and be almost sufficiently inclusive, that criminology is the science of the prevention of the development of criminals. It would be superfluous for a layman to urge this point of view upon the medical profession. It is already theirs, and those of their number who are interested in criminology carry it with them into the new field. An intimate knowledge of a great number of individual criminals so that we may understand the limitations of their several natures is the proper beginning of preventive activity. This, of course, implies the necessity of the physician's familiarity with the methods of criminologic research. The physical, anatomical, and physiologic methods required are already at their immediate command. There is another phase of criminologic research, however, the psychologic, in which physicians will realize their shortcomings.

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[1] Read before the American Academy of Medicine at the Thirty-eighth Annual Meeting, Minneapolis, June 14, 1913.

The physician as a criminologist stands in a somewhat different relation to human beings than that which obtains in the case of him who specializes in the treatment of aural or ocular disorders, or what not. This specialist easily develops the habit of regarding his patient as so much material to be molded into shape or joined or separated. His relation to his patient, therefore, assumes an impersonal character. It is the case of a carpenter and so much lumber. If the criminal were merely a physically sick or disordered person such a relation by itself might be effective of good results, as indeed it is in many instances. Or again, if the criminologist had no interest in the reformation of the criminal he might never consider him from any other than an objective angle. I have no statistical data to support my hypothesis—none is available—but I believe a good brief could be drawn in support of the proposition that to the extent to which we overemphasize the physical, and neglect to take full account of the mental factors that enter into the composition of the criminal, we incline ourselves toward leniency in our dealings with him and hence, perhaps, lend a hand toward increase rather than decrease in the volume of crime. In the study of normal human behavior we take the common-sense view that human minds are determining factors and we must do likewise, I believe, in the investigation of abnormal behavior. If we do so, we shall be able, without entering upon futile speculation regarding human freedom to place some of the burden of responsibility, not necessarily where it belongs, in any absolute sense, but where it will do the most good—namely, upon the individual. I should say, too, that we shall be able to place responsibility elsewhere whenever such a disposition of it seems to be appropriate. Few of our doctors of medicine, however, have up to this time taken this point of view. They, therefore, do not enter into the consciousness of the criminal and analyze his motives. One avenue to a complete understanding of such a character, therefore, is closed.

But it is not wholly the fault of the physician that he has been thus limited. The schools of medicine usually wholly neglect the psychologic element in their curricula, or if they attend to it at all it is in a most inadequate way. When the student enters upon practice he has had no light whatever thrown upon the development of normal automatisms in his own life, and he has not a proper criterion by which to gage what the psychologist recognizes as an exactly parallel development in the case of the criminal.

This suggests the delving for motives as the springs of conduct in order that we may understand the sources of behavior. It does not occur to many of us that our own original professional motives are deeply buried by the habits that years have accumulated. The highly conscious motives that functioned at the beginning of our career have been substituted for, so that now the mere opportunity to do our professional work suffices as the immediate explanation of our behavior. But our character is not understood merely by observing a response to an opportunity. The chance of to-day does not make it. Neither is it unmade when the apparent occasion is withdrawn. At one time, long ago, we were actuated in our striving toward our profession by conscious, deliberate impulsions, that were highly colored by emotion. Not so now. We go about our business to a considerable degree automatically. Here is an illustration, in a large way of the development of a normal automatism. And there is an analogous development of the criminal character. Here, too, the original conscious motives are deeply buried and the character is very imperfectly understood by the mere observance of overt behavior. Close analysis may be required to bring them to light.

The psychologic causes of the criminal, therefore, are not on the surface. The following quotation from the latest report of Committee A of the American Institute of Criminal Law and Criminology (published as Bulletin No. 12 of the Institute under the title "Method of Recording Data Concerning Criminals") faithfully represents another well-known view point of substantial thinkers in the field of certain abnormal psychologic phenomena that are associated with conduct:

> A background for misconduct is found sometimes in moral shocks, various experiences, or even in knowledge that has been repressed. Hidden worries (these are not common in children) react sometimes in the same way, as

> also does the belief that immorality rules in the social order....... Other most promising subjects of inquiry are the thoughts and pictures which some delinquents describe as repeatedly coming up in their minds and driving them to misconduct. [Investigation here involves] a serious attempt to analyze the individual's attitude toward himself to discover how he became an offender and what are his memories of the earliest formative influences of his character.

This investigation requires the association reaction method of research, in all its forms, notably in that of psycho-analysis, which some medical men erroneously believe is a product of their own profession. The physician who does not have the psychologic attitude toward his subjects and also the training of the psychologist must stop short of the successful pursuit of this important type of research.

I have yet to speak of one other set of problems that the physician as a criminologist should be prepared to meet. Here, too, the psychologic attitude and training are indispensable, for he must needs be a psychiatrist. I refer to the prison psychoses. The expert discovers many types of mental disorder among incarcerated criminals that in no wise differ from those that occur among the non-criminal population of our institutions for the insane, epileptics, feeble-minded and others. On the other hand he finds among them illustrations of psychoses of different character—not to speak of simulations. Dr. William A. White, Superintendent of the Government Hospital for the Insane in Washington, in the *Journal of Criminal Law and Criminology*, July, 1913, describes one of these psychoses as it appears in the making, and offers an illuminating comment thereupon. It is the case of an ignorant colored woman, who has been convicted of the murder of her husband and who is in prison awaiting her execution. She has developed visual hallucinations of her husband. She believes that, while he may have been dead, he has been resurrected; that her sisters have been resurrected from the dead also and that they are with her in the prison. After a careful analysis, Dr. White describes this as a prison psychosis; a mental disorder, the immediate cause of which is her present environment. She would probably recover her normal mentality if she could be transferred to surroundings of her own choosing. As long as she is in prison awaiting execution she faces an intolerable situation. Her entire organism revolts and in sheer self-protection there is developed a group, or a system of conscious experiences that she can bear. So she sees her husband, believes that he is alive, and dreams that they both are back in their old home. This is precisely the kind of process that repeatedly occurs in our normal life. We believe and see what we like to believe and see, and in other ways analogous developments normally occur. Once this parallelism is recognized and the appropriate methods, broadly denominated educational, and so preventive, are available to him, the prison physician should be able to prevent the development and persistence of such pyschoses in term prisoners who are ultimately to be free from the hand of the law. If he fails in this he may be placing an added burden upon the institutions for the insane, or increasing that portion of the free population who are distinctly potential dangers to society, or he may be doing both.

Once more, I regard it as a matter of capital importance that the physician in criminology should be a psychiatrist of such skill that he may, with a high degree of accuracy, distinguish the psychoses that present a favorable prognosis such as most prison forms from those that belong to a degenerate or other character whose prognosis is hopeless. We must perfect ourselves in making such distinctions. Then the medical profession must use its influence to establish the custom or law that the sentence of our courts shall be for an indeterminate term. Prison physicians and psychologists—or better, prison medico-psychologists—will then have to shoulder the responsibility of releasing from prison men and women who are a continual menace. We are repeatedly compelled to inject exclamation points into our literature and conversation when some miserable wretch just released from prison commits a dastardly offense. At such times we despairingly ask "Why could he not have been kept in prison for life?" I doubt, however, whether we are sinners above all other nations in this respect. In England, in 1910, by the way, out of 168,000 convictions, 104,000 had been previously convicted; 65,000 had been convicted more than twice; and 12,000 upwards of 20 times before. Surely adequate facilities for mental as well as physical diagnosis should enable us to abbreviate considerably such records of recidivism.

In all the foregoing I have had in mind particularly the physician who is professionally associated with our penal system. The general practitioner has his opportunity also to aim at preventive criminology, but it may be a less specific one. It arises in the course of his professional relations with the children in his vicinity and is broadly educational in its nature. Here too I say that the more thoroughly the practitioner is shot through with the attitude of the psychologist the more satisfactorily will he be able to put himself *en rapport* with the new generation and hence to be of healthful influence upon it.

I said a few minutes ago that as a rule the physician does not take the attitude of the psychologist toward his subjects, and that this is the fault, primarily, of our schools of medicine. If it be admitted, then, that a psychologic training for physicians is desirable, the authorities of the schools must be converted to the ideal that physicians are more than carpenters and plumbers whose function it is to nail together and to clean out. Then some reorganization of curricula must be effected so as to make room for psychology and for an extension of clinical and other instruction in psychiatry. One hour a week through the year devoted to lectures on nervous and mental diseases, and another one or two to clinics covering the same ground seems altogether inadequate even in the present state of our knowledge of such abnormal conditions. A good beginning has been made, according to my information, in Johns Hopkins, where a student may obtain the degree of Ph.D. in psychology and that of Doctor of Medicine also in six years, under certain conditions. Any medical student, furthermore, may elect a course in psychology in the fourth year. This was the situation a year ago and with the coming of the psychiatric clinic there was prospect for still closer relationship.

Every student of medicine should have to his credit at least a substantial year's successful work in psychology covering the customary topics in such a course but emphasizing at all times function and behavior rather than content and form; emphasizing the processes of acquisition and automatization rather than the nature and qualities of conscious states and processes. Such a course will not omit the description of sensation and perception and feeling, etc., but it will give particular attention to the part played by each in a great variety of processes that may be technically termed acts of learning and that range all the way from the mastery of a multiplication table to the development of a paranoiac's delusion of persecution. It is possible thus for the student to develop the helpful view that the abnormal, whether in conduct or not, is not separated by a hard and fast line from the normal; that there are almost infinite stages of gradations between the two but no abrupt leap across a gulf between them. He need not and will not be befuddled by the hazy concept of the sub-conscious which is the familiar refuge of the stalled tyro in psychologic research; the tyro who in all honesty, and unwittingly, be it said, breaks the rule of parsimony in scientific research. He anchors his explanation in something that itself needs immediately to be explained, if it is to be accepted as a whit more valuable from the medico-psychologic viewpoint than the subjects of speculation in the old faculty psychology.

I need not take a moment here to emphasize the absolute necessity of abundant opportunities for clinical demonstration at every turn in this psychologic study. It affords the necessary object lessons for much of the work and is the only suitable occasion for presenting the phenomena of hypnosis, suggestion, multiple-personality, etc., which, I insist, must be conceived from the angle of memory, perception, association, etc., but not from that of a hypothetical sub-conscious.

Such a psychologic groundwork as I have in mind we are trying to provide in Northwestern University in the College of Liberal Arts where a year's advanced work in aspects of the abnormal mind may be had on certain conditions. I believe that for the pre-medical student our attempt has a highly liberalizing effect.

I ought also to speak of the physician's service to criminology in the field of vital statistics.

We may be forging too far ahead of the commissary in our decade in legislation in matters of eugenics. The man or woman of scientific ideals shudders at the isolation. The story of the criminal's inheritance is in a book that is almost unopened. Our American population is so nomadic that an adequate fund of family-biologic statistical data is well-nigh impossible to attain. It is only in such stationary populations as that of Sweden, for instance, that such statistics may be found on a broad and reliable basis. Isolated families may be found here, however, in which the biologic history may be unearthed. The Jukes and the Kallikaks are notable illustrations of what is required. With the development of criminal statistics, now happily dawning, and especially with the hoped-for development and universal adoption of a system of birth and death registration, the future should have reliable data to guide legislation in relation to eugenics. It should lie near to the interest of physicians to urge constantly upon municipalities and states the desirability of vital statistics. Ultimately, then, we should have what we want in this way; not in our generation, but science knows how to wait. She will wait patiently in this instance for the fruits of another generation if only she can feel justified in her confidence that for the present the conditions for observation are adequate.

INFLUENCE OF PARENTAL DISEASES, HABITS AND HEREDITY UPON JUVENILE CRIME.[1]

By Haldor Sneve, M.D., Professor of Mental and Nervous Diseases, University of Minnesota, St. Paul, Minn.

What is crime? Webster says that it is wrong-doing—the violation of law; wrong-doing is the breaking of the rules of social intercourse formulated by the society in which we live into law and ordinance; it follows that wrong-doing or crime is therefore geographical in the sense that it depends entirely on the views of the civilization of the particular locality we inhabit—Man's law and Nature's law are in some instances at variance, as in the sex relation, and man's law in such conflicts usually suffers defeat. It is clear that we must be taught law and trained to observe it; we are all born potential criminals and it is only through education of that high cerebral function inhibition or self control, that we can keep from committing crime; so that in considering the influence of parental diseases, habits and heredity upon juvenile crime it amounts to a consideration of these factors upon the building up of the resisting power in the individual to temptation.

Broadly speaking this control of self depends upon two factors: (*a*) Integrity of the mental machinery, and (*b*) environment (instruction, training).

This paper is concerned only with (*a*).

The mental machinery may be almost entirely destroyed as in *idiots*, seriously damaged as in *imbeciles*, and affected to a lesser degree as in the *morons*. The last class is really the one of dominating interest to us because of the high percentage of more or less defective individuals who infest our juvenile courts and reformatories; from my own observations fully 50 per cent. of criminals are deviates from the average standard of contemporary individuals of the same age.

At the outset we must make clear that in our opinion crime as such is not transmitted from our ancestors through the germplasm; a counterfeiter does not hand down a tendency to make engraved plates any more than a pickpocket transmits the ability to purloin purses from pockets with the skill that defies detection.

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[1] Read before the American Academy of Medicine at its Thirty-eighth Annual Meeting, Minneapolis, June 14, 1913.

It is true that there are prominent workers in the field of science who believe that we can inherit acquired characteristics: "because of the self-indulgence of parents the offspring will have weakened self-control," and who speak of painters and musicians as having inherited their art; they pass over lightly the fact that these must learn to draw or spend years of tedious practice of five-finger exercises. This view of inheritance happily entertained by a small minority is exemplified by the case related in the old Carpenter Mental Physiology of a young Englishman who had been kept away from tea all his young life and was sent to Paris as his twenty-first birthday approached, but woke up at midnight on this natal day and ordered his valet to bring him some tea; this proving that the habit of tea drinking at this hour was clearly inherited because the young man's greatgrandfather, grandfather, and father had acquired the habit of drinking tea in Parliament at midnight.

Herbert Spencer said that "change of function changes structure" and on this hypothesis we can inherit changed structure, but what structure is changed? Is it not that of the parent and not the germ plasm which is already formed and is almost a structure apart from its host? Anatomically the ova and sperm cells are structures formed out of the germ plasm and are distinct and separate developments and ready to be discharged and continue their function of perpetuating the same species when the host is from 12 to 14 years old, long before most hosts have acquired much of any fixed functions. The Hebrews have practised circumcision for 2000 years and more and still nature has not responded; the Chinese have been deforming the feet of their high caste women for centuries, but nature calmly goes on forming normal Chinese feet according to her own model of human structure; the Flathead Indians tried for untold periods of time to change nature's model of the skull, but all to no purpose.

Have the penal colonies of England and France reproduced nothing but criminals? Is Australia, for instance, peopled only by natives and fearful assassins of bad white stock? Or does someone suggest that the Torrens title law, the initiative and referendum are among her contributions to modern civilization, and that law and morality have about the same percentage of practitioners there as in countries with a more romantic history, where in early times successful robbers were dubbed barons.

Some brilliant minds like Oliver Wendell Holmes believe that statesmen, thinkers and poets must needs be descended from statesmen, thinkers and poets, but what of the products in these fields contributed by the United States? Our immigrants were not statesmen, thinkers or poets surely.

Despite the ingenious calculations of David Starr Jordan that every American has royal blood in veins, and despite the fact that every successful fellow citizen who has made his fortune through the beneficent hereditary workings of our (I had almost said tariff) regal descent is able to find at least *one* ancestor with noble blood in his veins, I think that it demands a vivid and credulous imagination to believe that such views of heredity are even worth the heated air discharged in expressing them. *Vanity is responsible for most of the bizarre conceptions of heredity.*

To my mind the important thing about having honorable ancestors is that they give descendants traditions to live up to.

If we cannot inherit acquired traits, do we inherit a more favorable soil or tendency to such traits? I think the answer must be no. A burglarious tendency is no more possible than a tendency to stenography.

Heredity is so loosely used that the same thing is not meant by different writers; some mean that which is produced through the union of the male and female elements—from the germ plasm—and others everything we have at birth. A mother may infect the fetus with syphilis while it is in the womb and this should not be called hereditary, but acquired and congenital. It surely should be important to call only that which affects the ova and spermatozoa and which can be transmitted indefinitely by their union, hereditary.

Science, so far as I know, has up to the present demonstrated that the only things we acquire through heredity are color, form and structure; we do get features, frames, as well as the color of our skins, hair and eyes, and in these things it seems probable that Mendel's laws are followed, but we can not and do not inherit mathematic faculties or anything else that we have to acquire.

Dr. Frederick Adams Woods, lecturer on eugenics in the Massachusetts Institute of Technology, would have us believe that we inherit ability and other mental qualities, and cites the fact that the Lees of Virginia, the Livingstons of New York, the Adamses, Quincys and Lowells of Massachusetts, and the Edwardses of New England have furnished us with all sort of distinguished citizens; especially has Henry Adams been the progenitor of more superior Americans than any one man; in his "Mental and Moral Heredity in Royalty," he found that one-half of the greatest rulers came from mediocre ancestors, but concludes that: "the vast horde (say 90 per cent. of the whole) is no more likely to produce a man of genius than is the 1 per cent. or less than 1 per cent., which from the standpoint of eugenics, we rightly call the *crême de la crême*."

There are authors who write seriously on "What States Have Contributed the Most Scientists" in proof of the inheritance of a predisposition to scientific studies existing in Massachusetts. No less an authority than Prof. C. B. Davenport, of the Carnegie Laboratory and Wood's Hole, would have us believe "that in southern California, a subrace that is non-resistant to tuberculosis and bronchitis has been partially segregated; that in the Berkshire Mountains is isolated nearly a pure strain of feeble-mindedness; in eastern Massachusetts a partially pure strain of deaf mutes; and that localities exist with albinos, dwarfs, syndactyls, polydactyls, myopics, of those non-resistant to cancer, of hermaphrodites, of melancholics, of eminent scholars, of military men and statesmen, of sea captains and naval officers, and so on;" "such families are biotypes and if they do not persist it is owing to crossbreeding." "Committing crimes or misdemeanors is the reaction on the inherited plasm to external stimuli, just as the moth flies to the candle, the carrion fly to the source of the scent, so such persons perform their acts as parts of necessary reactions, sincerity, insincerity, generosity or stinginess, truthfulness or untruthfulness, are all qualities whose presence or absence is determined largely by the factor of heredity."

If such views are valid then the outlook for the United States is indeed sad, unless the superior blue blood of Europe is mated with the superior stock from New England, and the latter prevented also from mating with the "vast horde," so that we can retain superior strains to conduct our affairs; of very little use will it be for us to build reformatories, and try to uplift the fallen, for according to this predestination theory, the individual, because of his poor germ plasm, must always react in a certain way to his environment. A Benjamin Franklin, an Abraham Lincoln are only "sports," and we must not count on enough of these to more than prove the rule of descent of low degree.

Can anyone view the accomplishments of the "vast horde" in the United States and get such distorted views of heredity? There surely are eminent workers in every field of human endeavor here, and their names are not all Adams or Edwards.

Ought the fact that the cradle of our American schools and civilization was New England, excite wonder that in that part of this country the average number of so-called superior citizens has been greatest?

Helen Kellar would have remained an imbecile if means were not found to educate her brain cells through the sense of touch.

We are continually confusing organ and function, and this is one reason that such bizarre views of heredity are so widely entertained; no one will deny an evolution or change through the effect of environment on ancestral protoplasm, but the hypothesis of Lamarck that the acquired habits of animals were inherited is held by few scientists to-day.

De Vries would have us believe that new species come into being suddenly, without preparation by the selection of Darwin.

Tower found that changes of moisture and heat produced color and form changes in beetles which reproduced themselves. Kammerer experimenting on toads, frogs, and salamanders changed the color and size; McDougal by injecting zinc and other substances into the ovaries of plants could produce mutations.

It is to be noted that these are only responses in differentiation of the germ plasm to external stimuli, and as McDougal says "the inheritance of acquired characters is a conception so vague, so widely inclusive and withal so illy consonant in ordinary usage with the facts, that it will soon be quoted only for its historical importance."

Castel has shown that by cross-breeding you can produce black or red guinea pigs, and long- or short-haired guinea pigs, but again it is to be noted these are only changes in color and structure belonging to the race.

The point I wish to make from all this is that it may be possible to create changes in organs, *but that function must be cultivated;* we can breed a healthy brain in a healthy body, but that brain must be *trained*, so that eugenics and euthenics must go hand in hand.

What are the known causes of defective minds? The ready answer of to-day sounds heredity and disease; about 40 represents the percentage in both insanity, epilepsy and feeble-mindedness generally accepted by the medical world, and 60 per cent. to disease from poisons, inflammation and injury. The work of the Freudian school has opened an entirely new vista in our conceptions of the causes and nature of certain insanities and neuroses, so that as far as some of these diseases are concerned we may hope to escape from the unsatisfactory explanation of inheritance; how a mental derangement can be hereditary and wait until adolescence or middle age before exploding, has always been a great mystery to me. Instances have been recorded where an entire family including hired girl and man have become insane, so that environment is not to be lightly passed by even in insanity.

Idiocy, imbecility and lighter degrees of feeble-mindedness is supposed to be hereditary to the extent of 42.6 per cent. (Ireland), 45 per cent. (Langdon Down), 50 per cent (Voisin and Féré), 45 per cent. (Conn. Com. of 1856), 18 to 27 per cent. (German Commission), and 17.4 per cent. (Carl Looft, Norway).

What do these authors mean by heredity? Merely a family history of some mental or nervous disease in the direct or collateral ancestors. Such statistics are of dubious value when not intensively studied as to nature and cause.

In epilepsy, Spratling found only 16 per cent. in 1070 cases due to direct inheritance from parents, 56 per cent. when all so-called causes such as history of alcoholism insanity, etc., in ancestors was included.

Because of the thorough control of the hereditary histories the critical studies of Carl Looft on the etiology of arrest of mental development are among the latest and best with which I am acquainted.

In 593 cases of idiocy and imbecility he found:

I. Mental and nervous disease in ancestors = 17.4 per cent.
II. Alcoholism = 3.7 per cent.
III. Tuberculosis = 9.1 per cent.

Spurred on by these low percentages of causes usually cited, he sought for other factors, and to the nutritional disease rachitis, he assigns 19.4 per cent.

Cerebrospinal meningitis = 3.7 per cent.

Head injuries in childhood = 1.8 per cent.

Traumata to the pregnant mother causing hemorrhages in fetal brain and meninges, prolonged labor causing the same accidents, cretinism, epilepsy, whooping-cough and other infectious diseases all played a part. He has studied very carefully 143 morons and found first, that nearly all came from poor homes with an average of 7 to 8 children in each family, and hygiene and nutrition were bad.

Of mental and nervous diseases in the family history, 16.8 per cent. were found. Alcoholic fathers in 9.8 per cent., of these four also had tuberculosis. Alcoholic mothers none; out of the 14 cases only one did not have some other additional cause such as rickets and infantile convulsions.

Alcoholism in a father means that if it has any effect at all it must be through his spermatozoa, a conception I cannot subscribe to; first, because the toxic effects of alcohol are transient and the developing fetus would recover from its intoxication—no known poison can so seriously affect our bodies and be so easily recovered from; second, only the other day everybody drank without flooding the world with overwhelming numbers of feeble-minded; and, third, if the sperms were so profoundly affected they ought to be sterile, and drunken fathers seem to be even more fecund than the sober.

The vivid imagination of the Gauls would have it that if the parents were drunk at conception, insanity, epilepsy, or idiocy would be the penalty in the offspring. Otherwise temperate people following establisht custom in the past, drank at their weddings, and further, conception may be delayed a week after coitus without opportunity for wandering egg or spermatozoan to imbibe alcohol, and lastly, women while sober would not submit to the embraces of the drunken husband.

An inebriate mother while carrying her child may stunt its growth.

Dr. Stockard has shown that keeping guinea-pig mothers under the influence of alcohol resulted in the arrest of some of the offspring producing runts, but this clearly is a direct poisoning of the fetus and has nothing more to do with heredity than has syphilis or lead poisoning. We can no more inherit a taste for alcohol than for limburger cheese, and the fact that it is nearly always only the father who drinks is almost conclusive proof that alcohol has no effect whatever on heredity, and the statistics of this poison are valueless.

Let me ask what is the environment of children with drunken fathers?

Looft found tuberculosis in 9.8 per cent. of histories in the morons, but calls attention to the presence of rickets in these cases which is the specific cause of the backwardness. How does tuberculosis affect the mind? By giving the child tuberculous meningitis or other actual lesions, hydrocephalic idiots, anencephalous monsters and so on, are probably all due to tuberculosis. Was there a fact more firmly fixed in the mind a few years ago than the hereditary character of tuberculosis based on the same sort of evidence we now use in feeble-mindedness? Who dares now to assert that tuberculosis is hereditary?

Of the 143 morons, 31 were the subjects of difficult and prolonged labor, 14 had asphyxia, 2 injury to the head and 121 had rickets.

Of the infectious diseases, diphtheria, scarlatina pertussis, typhoid, and middle ear disease afflicted 17 of the children.

Rachitis is the nutritional disease which affects not only the bones but the brain, causes many of the stigmata of Lombroso, infantile convulsions, and leaves its stamp on the child so that its visit can be recognized later.

Neuroses such as hysteria and neurasthenia are to my mind acquired diseases, and in the preponderating number of cases afflict the parents after puberty, so that their effect on the ova and sperm must be nil. We have been laboring for years under the incubus of statistics like those of the Juke family, and Prof. Lehman's drunken woman, born in 1740, whose descendants numbered 834; of these 7 were convicted of murder, 76 of other crimes, 142 were beggars, 64 lived on charity and 181 women lived disreputable lives.

Such genealogical studies have very little value except as indicating the poor economic status of the environment of the unfortunates.

The celebrated studies of Mendel gave us something besides speculation to work with on the problem of heredity.

The studies of Goddard on the Kallikak family would seem conclusive as to the heredity of feeble-mindedness, and also the most excellent work done here in Minnesota by our Dr. Rogers at Faribault along the same lines, seem to lead to the same result; without going further into question of whether the Kallikaks were feeble-minded because of heredity or environment, I will say that since we know that from 60 to 85 per cent. of the feeble-minded are so because of diseases affecting their brains while in the uterus, or in the critical formative stage of birth and infancy. I would question the value seriously of any statistics which simply find that there have been persons of like condition in the ancestry. In the case of morons who form so large a percentage of our juvenile criminals I question that there is any defect of the brain whatever, and perhaps at least one-half of these are defective because of insufficient and improper training. No matter how good a violin one may have awful noises can be played upon it. Is it not contrary to the facts to assume that nature can have imprinted in, or left out of, the germ-plasm a determinant of some sort which will go on producing a race of idiots? Let us rather, in conformity with the indisputable data at hand, assume that some toxin or some injury which may become operative at any time between the fertilization of the ovum to completed developments is the specific cause of an arrest of the brain development.

If we examine a large number of ignorant people such as those which constitute the bulk of patients in a municipal hospital with the Binet-Simon tests, we will find that they are as backward as many of those we call morons. It is not possible to deny in the present state of our knowledge that feeble-mindedness is not hereditary in a percentage of cases, but this is in my opinion very small.

The recent epidemics of so-called anterior poliomyelitis which have demonstrated that this disease affects the whole cerebrospinal system and that there are many abortive cases with few symptoms of illness should be significant, it seems to me, that this is an unrecognized cause of serious damage to the growing brain of the infant which will account for many morons if not imbeciles or idiots.

The most remarkable fact about the studies of Bourneville, Sollier, Ireland, Langdon Down, Piper, and Looft is the unimportant role played by that arch enemy of the nervous system, syphilis, in the causation of arrest of mental development; it does not comport with what syphilis does to the nervous system of adults.

In the few cases I have observed in Judge Orr's Juvenile Court in St. Paul, I have thought to find Hutchinson teeth, enlarged lymphatics, keratitis, iritis, and strabismus—all of which I look upon as stigmata of syphilis—in the majority.

In the cases of mental backwardness both in our hospitals and reformatories, I think that the Wasserman test should be applied, not only to serve as an index to causation, but also to treatment.

According to our view then, parental diseases which infect the growing foetus or infant predisposes to crime because of weakened mind. Alcoholism except in the mother is a negligible direct factor in weakening the child's brain, and morphine and cocain must be considered the same way.

FROM THE FIELD.

The Fourth Annual Meeting of the American Association for Study and Prevention of Infant Mortality will be held at the Hotel Willard, Washington, D. C., November 14–17, 1913. The following schedule for the meetings has been publisht:

Friday, November 14.

9.00 A.M.—Executiv Committee Meeting.
10.00 A.M.—Directors' Meeting.
11.00–1.00 P.M.—Section on Nursing and Social Work.
1.00–3.00 P.M.—Subscription Luncheon—Affiliated Societies.
3.30 P.M.—Section on Pediatrics.
8.00 P.M.—General Session. Address by the President, Dr. L. Emmett Holt, etc.

Saturday, November 15.

9.00 A.M.—Annual Business Meeting of Association.
10.00–12.00 A.M.—Section on Eugenics.
12.00–1.00 P.M.—Round Table Conference, Nursing and Social Work (by request).
2.00–4.00 P.M.—Section on Obstetrics.
3.00–5.00 P.M.—Section on Public School Education.

Sunday, November 16.

3.00 P.M.—General Session.

Monday, November 17—"District Day."

9.00 A.M.—Meeting of Board of Directors.
10.00 A.M.—Section on Vital Statistics.
2.30 P.M.—Report of Local Activities.
8.00 P.M.—General Session. Subject—Conservation. Report of Committee on Resolutions and closing announcements.

Dr. Horst Oertel, Scientific Director of the Russell Sage Institute of Pathology, in the *American Underwriter* for May, 1913, makes a startling accusation as to the accuracy of American mortality statistics. To quote his own words:

> Now it is no exaggeration to claim at the outset that the errors and inaccuracies in the present returns of the causes of death as filed with all our Boards of Health are so great, variable and uncontrollable in accuracy that it may justly be doubted whether deductions which are based on this evidence of American statistics are at all trustworthy, or, as Professor Bashford, Director of the Imperial Cancer Research Laboratory in London, remarks: "The vital statistics of Ceylon are more reliable than those of New York."

He attributes the cause of this inaccuracy to the fact that even the best reliable records are based on bedside diagnosis largely, without the assistance of an autopsy, quoting Dr. Cabot's statistics recently given in confirmation of this point; and adding others of his own research. In the second place he charges physicians with "ignorance, carelessness and haste" in making out death certificates. The death certificate is thought of too lightly, as a mere formality in securing a burial permit. He realizes the opposition of the American people to post-mortem examination of their deceast friends, urges a campaign of education in this direction and calls attention that frequently in the absence of an autopsy the microscopic examination on the diseased tissue (more especially if it be a tumor) will greatly aid the accuracy of the assigned cause of death.

The suggested remedies are:

a. To recognize that the only reliable death certificate can be given by an expert pathologist after an autopsy.

b. To carry on a campaign of education, first to educate physicians and others to their responsibility in the matter and to secure public sentiment, at least not in opposition to the making of autopsies. In this agitation the hospitals could aid materially.

> *c*. Every death certificate should show plainly whether a return of the cause of death is based on clinical symptoms alone, or additional objective (microscopic) evidence during the life of the individual or, finally, on the complete autopsy. These should be kept apart in three groups as unreliable, more likely reliable, and reliable death records.
>
> Every worker would then know what to trust, and what to distrust or at least to take *cum grano salis*, and much nonsense would remain unwritten and it is to be hoped unsaid.

The *Underwriter* comments editorially upon this article, in which he attacks the integrity of the medical profession, suggesting that the uplift of the standards of medical education will cause the young graduate to "enter upon his practice with the proper sense of the responsibility which he has assumed;" and again, "the whole structure practically rests upon the American medical profession as a base and this reform, if reform there is to be, like the other reforms, must begin within rather than without the ranks of the profession concerned." He then calls attention to Flexner's report of American Medical Colleges and assails the honesty of the American medical profession.

These are sweeping assertions to make and we do not believe a careful analysis of the facts would bear out the conclusions reacht. We admit the inaccuracy of the mortality statistics; we also admit that there is a proportion of the medical profession woefully lacking in educational facilities and a keen sense of honor desirable for every member of the medical profession. But in view of the figures given, the errors of bedside diagnosis, when proven by autopsy, which are based upon reports from prominent hospitals, is it fair to charge the profession as a whole of not giving due consideration to the stated cause of death, or of being careless in making a return? Whether ignorance plays a prominent part or not cannot be discust until the word itself is more carefully defined. Thus, in a particular example cited by Dr. Oertel where a bedside diagnosis of cancer was apparently confirmed by autopsy until the microscope revealed the true nature of the growth, the diagnosis was due to ignorance but ignorance of a character that is in no wise reprehensible.

Let agitation be made for more accurate mortality returns; let errors be pointed out and means provided to bring to the public gaze those who are hasty and careless; but do not unjustly accuse the profession of evils which it does not possess.

We are in receipt of a pamphlet entitled "The Failure of Dr. R S. Cummings to Protect Guinea Pigs against Tuberculous Infection with the Vaccine of Dr. Karl Von Ruck," which ordinarily would have been past over with but casual notice, but as the second page contains a direct charge against the Journal of the American Medical Association it became at once a matter of interest. So the original article of Dr. Cummings was lookt up and the pamphlet itself read.

It appears that Dr. Von Ruck has prepared a vaccine which he claims gives immunity from tuberculosis, presenting his claims to the profession thru the medical press, one of his papers appearing in the Journal of the American Medical Association. Dr. Cummings made a test of this vaccine in which he arrives at different conclusions from those reacht by Dr. Von Ruck, and publishes his work also in the Journal of the American Medical Association. Dr. Von Ruck desires to take exceptions to the methods of Dr. Cummings and sends a letter to this effect to the Journal, which was not publisht upon its receipt, and Dr. Von Ruck issues this pamphlet.

With the question of the value of the vaccine we have nothing to do, since its discussion would be foreign to our pages; but the equity of the matter does interest us, for it seems to the outsider that the proprieties have not been observed and the proper courtesy has been disregarded. We accord to Dr. Cummings the right to test the vaccine in any way that seems to him best; at the same time it would have been but fair for him to have exprest in his paper the fact that he did not follow the method suggested by Dr. Von Ruck and have given his reasons therefor, the more especially since Dr. Von Ruck called his attention to the necessity of following his method to insure the result. It is commendable in the Journal of the American Medical Association that a communication criticising an article appearing in the Journal should be submitted to the author of the article before the publishing of the criticism; but it would have been courteous to acknowledge the receipt of the communication and advise the critic of this custom. It is not courteous to the critic to permit the author of the article criticised to pigeon-hole a communication and delay its publication. After giving sufficient time for the reply, the criticism should be investigated upon its merits and either receive a place in the Journal or the reason for declining to accept it transmitted to the writer. Had this been the procedure there would have been no necessity for this pamphlet and the carping critics of the American Medical Association and its Journal would have been spared some fuel to keep their venom boiling.

It should be noted that the Journal for August 9th, some time after the pamphlet was issued, contains Dr. Von Ruck's letter and Dr. Cumming's reply so that the pamphlet need not have been publisht had a little patience been exercised. It only goes to show how much less friction there would be if the ordinary amenities were observed.

Apropos of the report of the Committee on Teaching of Hygiene and Preventiv Medicine in Medical Schools presented at the last meeting of the Academy and publisht in the last number of the Bulletin, we call attention to the new Boston course in public health; Boston, because Harvard University and the Massachusetts Institute of Technology combine to maintain it. It is the purpose of the school to prepare young men for public health work, enabling them to occupy administrativ and executiv positions. Recognizing that the requirements for such service are broad and complicated and are not possest by many at present, it is proposed that the instruction will be given in the broadest lines—making use of lectures, laboratories and practical instruction. While, we take it, it is not strictly a post-graduate course, the requirements for admission are those which are ordinarily possest by graduates of colleges or technical and scientific schools, who have received adequate instruction in physics, chemistry, biology, French and German. An M.D. degree is not required, altho it is urged that those who intend to specialize in public health work first take the degree of Doctor of Medicine. The course leads to a certificate in public health (C.P.H.). Professor Milton J. Rosenau, of Harvard, is the Director of the School, having associated with him in the administrativ board Professor William T. Sedgwick, of the Massachusetts Institute of Technology, and Professor George C. Whipple, of Harvard.

NOTES AND NOTICES.

Erratum.—The name of Dr. Mabel S. Ulrich, of Minneapolis, should have appeared in the list of those elected to Fellowship on p. 286 of the last number of the Bulletin.

* * *

Evidently the mania for possession of honorary titles is not confined to the United States or the knowledge of our particular obsession has spread abroad. We are in receipt of a communication from Palermo, Italy, sent by open mail as would be any trade circular, enclosing a communication inviting us to become an honorary member of the said society, which reads, in part: "The Council * * * have in consideration of your many dignities and great learning resolved to nominate you honorary member of the Academy, bestowing upon you a first-class medal for technical work and scientific merit." (This characterization is entirely impersonal, being a printed circular.) A blank to accept the said nomination accompanies the circular which, among other things, contains the following: "In agreement with Sections 19 and 22 of the Constitution of which I have taken due note and I send by same post postal order for —— dollars." Article 19 stipulates that the initiation fee of $5 be paid and Article 22 suggests that $10 be enclosed for the gold medal accompanying honorary membership. It is just possible that this may be a sincere effort of the simple scientific mind (for that reason we have not quoted the name of the society) but its methods are so reprehensiv that we doubt, were the statement originated in the United States, it would be given access to the mails.

* * *

The International Sunshine Society, whose headquarters are at 96 Fifth Ave., New York, is devoting its energies to the care of blind babies. It reports that 10 states now give special financial aid for such from the day they are blinded. These states are: New York, New Jersey, Pennsylvania, Arizona, North and South Dakota, Michigan, Rhode Island, Maryland and Maine. Besides its effort in securing state aid it is engaged in giving private relief to those who may need it and has founded and maintains two institutions, one in Brooklyn, New York, and the other at Summit, New Jersey, where blind babies can be taken care of. The condition of babies born blind is frequently deplorable because of ignorance as to the proper care to be given and the Society is desirous of getting in touch with the caretaker of every blind baby thruout the country.

* * *

An International Exposition of Safety and Sanitation will be held at the new Grand Central Palace, Lexington Avenue, 46th to 47th Streets, New York City, from December 11 to 20, 1913. The exposition will be held under the auspices of the American Museum of Safety, which assures its success. Information as to the exposition may be obtained by addressing it at the United Engineering Societies' Building, 29 W. 39th Street, New York.

* * *

The *Coe College Courier* (Cedar Rapids, Ia.), for July, 1913, thus plays with statistics. While one may not accept the conclusions reacht in their entirety, there is enuf in the suggestion to furnish food for serious thought. In most of the discussion on medical education the trend is to displace the purely cultural with the technical.

THE BEST COLLEGE! WHAT IS IT? WHERE IS IT?

The answer to these questions is not a matter of opinion to-day, but of fact. Colleges are old enuf now to be tested by their output. This output has been analyzed by experts, and warrants certain fairly definite conclusions. An eminent university professor has made a thoro study of the men whose names appear in "Who's Who in America," the Blue Book of Success, with a view of finding out how and where they were educated. He finds:

1. That 60 per cent. of the men who have won distinction enuf to secure a place in that book are college graduates.
2. That the small college, that is, a college with 500 students or less, contributed a much larger percentage by two-thirds of its graduates to Who's Who than institutions with 1000 or more students.
3. That the city college, that is, a college located in a community with a population of 30,000 or over, turns out a larger percentage of distinguished men than colleges in smaller towns and villages.
4. That only four per cent. of the men in Who's Who come from purely technical schools, and that of those who have won distinction along technical lines nearly half of them graduated from a liberal arts college before taking up their technical studies.

From these facts our expert draws the following conclusions:

a. That the best college is the small college.
b. That it is located in a city with a population of not far from 30,000.
c. That its courses are cultural rather than industrial or technical.

* * *

The Lane Medical Lectures for 1913 were delivered by Sir Edward A. Schaefer, Professor of Physiology of the University of Edinburgh, on September 3, 4, 5, 8 and 9. Professor Schaefer's lectures were upon "The Internal Secretions." During this course of lectures the staff of the Medical Department of Stanford University gave a series of clinical lectures and demonstrations.

ACADEMY PERSONALS.

Crile, George W., has been made an Honorary Fellow of the Royal College of Surgeons of London.

NECROLOGY.

1913.	Aug.	6.	Eugene C. Hay.
	Sept.	3.	Thomas E. Pickett.
	Sept.	10.	Richard Van Santvoord.

LITERATURE NOTES.

REVIEWS.

Diagnostic Methods, Chemical, Bacteriological, and Microscopical. By Ralph W. Webster, M.D., Ph.D. Third Edition. P. Blakiston's Son & Co., Philadelphia. pp. xxxvii + 692. Price, $4.50.

The first edition of this book was issued in 1909 and received a warm welcome from the medical profession. The second edition followed in 1912. The third edition, which has just been issued, brings the work thoroly up to date. Among the additions which may be noted is a discussion of the *Bacillus Paratyphosus* in its different types and the peculiarities of the agglutination reaction with this organism. The diagnostic use of vaccines is thoroly discust. The use of typhoid vaccine for immunizing purposes is described. Abderhalden's sero-diagnosis of pregnancy is given in accurate detail. Such subjects as streptococcic sore throat are discust and the epidemics which have occurred are noted. As in the previous editions, numerous laboratory methods are fully described and the work is, in addition, illustrated with numerous colored plates, which make the work additionally valuable. The book will undoubtedly prove a great help both to the laboratory student and to the general practitioner, especially if the latter is interested in microscopic work and is accustomed to make his own pathological examinations.

E. M. GREEN.

NOTICES.

DIE RASSENHYGIENE IN DEN VEREINIGTEN STAATEN VON NORDAMERIKA. Von GÉZA VON HOFFMANN, k. u. k. österr.-ungar. Vizekonsul. Mit einer Figur im Text. J. E. Lehmann's Verlag, München. 1913. Paper. pp. 237. No price.

Mr. Hoffmann while in this country as Vice-Consul of Austria-Hungary made good use of his time to gather material for this most excellent monograf. He divides his book into five chapters and adds four appendices. Chapter one treats of the foundation of eugenics; chapter two, of the spread of eugenics in the United States; chapter three, of marriage regulations with eugenics purpose; chapter four, of sterilization of the degenerate; and chapter five, of selecting the immigrant.

Appendix one gives the text of the marriage law of Michigan; appendix two, the text of the various laws relating to sterilization; appendix three, the laws regarding immigration; while appendix four is devoted to a most admirable bibliografy comprising 927 numbers, which is accompanied by an alfabetical index of the authors.

We know of no other work which gives a more complete or concise statement of the progress of eugenics in the United States and every student of the subject should have access to the volume.

A COMPEND ON BACTERIOLOGY INCLUDING ANIMAL PARASITES. By ROBERT L. PITFIELD, M.D., Pathologist to the Germantown Hospital; Late Demonstrator of Bacteriology at the Medico-Chirurgical College, Philadelphia; Visiting Physician to St. Timothy's Hospital and Chestnut Hill Hospital, Phila. Second Edition, with 4 plates and 85 other illustrations. pp. 280. Cloth, $1.00, net. Philadelphia: P. Blakiston's Son & Co.

Dr. Pitfield tells us in the preface that "this little book was designed by the writer to serve the needs of the medical student preparing for examination, and for the practitioner of medicine who desires to acquaint himself with the principal facts of the rapidly growing science of bacteriology." The second object is surely a commendable one for there are still many in the profession who have not been trained in the bacteriologic laboratory and to whom a clear and concise treatment of the subject as shown in this volume may be of assistance in their every-day work.

The first purpose exprest leads away from the discussion of the merits of the book for it shows the great danger of our present examination scheme and the necessity of those interested in furthering the true advancement of the profession to devolve a plan whereby examinations would demonstrate the assimilated knowledge possest and not be a means of merely disgorging material crammed for the purpose. As long, however, as the cramming process is necessary this work of Dr. Pitfield will find a dual use and it adapts itself to either admirably.

THE CHILD IN THE CITY. A series of papers presented at the conferences held during the Chicago Child Welfare Exhibit. Publisht by the Department of Social Investigation; Chicago School of Civics and Philanthropy. pp. 502.

From the editor's preface we glean that the contents of this handsome volume may be divided into two classes, one, consisting of addresses in popular form for the purpose of instructing and arousing to activity the audience; and two, papers and discussions intended for mutual help among those actively engaged in some form of child caring. So that the volume appeals to the general reader and the expert. There are over fifty titles given in the table of contents which show the richness of the volume and at the same time that it does not lend itself to the purposes of a review. These titles are classified under general heads such as: Personal Service, Physical Care, The School and the Child, Special Groups of Children, The Working Child, Social and Civic Problems of Childhood, etc. We hope this brief characterization of the book will bring it to the attention of all who are interested in child welfare and desire to acquaint themselves with the various problems connected with it. It should be accessible to every one interested in the subject.

ASSOCIATION OF AMERICAN UNIVERSITIES. Journal of Proceedings and Addresses of the Fourteenth Annual Conference held at the University of Pennsylvania, November 7 and 8, 1912.

The 14th annual conference of this Association was under the presidency of the representativ of Leland Stanford Junior University and as usual there were three sessions at each of which different topics were discust. The question was presented by a paper and then followed by general discussion. The subjects discust at this meeting were: "The Present Status of the Degree of Doctor of Philosophy in American Universities," "The Influence of Graduate Fellowships and Scholarships upon the Quality of Graduate Study," and "Methods of Ascertaining and Apportioning Cost of Instruction in Universities."

11TH ANNUAL REPORT OF THE BUREAU OF SCIENCE (Philippine Islands), for the year ending August 1, 1912. By ALVIN J. COX, Acting Director. Manila Bureau of Printing, 1913.

The Bureau of Science of the Philippine Islands is a fusing of the government laboratories, Bureau of Mines, and Bureau of Ethnology, and this volume gives the report of the work of the various divisions into which the Bureau is divided, showing commendable zeal in purely scientific investigation, and demonstrating the benefit of the application of science to economic questions by its investigations. The report is profusely and handsomely illustrated by a series of 72 plates.

EUGENICS AND THE STATE. By R. B. VON KLEINSMID.

In this paper of Mr. von KleinSmid's the position is taken that the state should safeguard itself against the increase of the defectiv population. While full figures are wanting, he illustrates his position by the increase of the number of insane. As in Massachusetts, where it was 1 to every 393 of the population in 1890, that increast to 1 to every 279 in 1909. He also calls attention to the fecundity of the defectiv and the diminishing of it among the worthy. He thinks society to effect the proper control in this matter should make use of the three methods that have been suggested, namely: legislativ control of marriages, segregation and asexualization.

AM I REALLY MY BROTHER'S KEEPER? By NORMAN BRIDGE, M.D., Los Angeles, Cal.

This variant of Cain's question served as the text for a homily delivered in the Westminster Presbyterian Church at Minneapolis on the Sunday preceding the meeting of the American Medical Association. We wish one frase could be burned into the minds of the people at large as it would be a preventiv of, possibly, the greatest ill from which the world is suffering to-day. "All men are created equal" rings in our ears as tho it must be true; but all men are not equal, nor can they be, save in equality of human rights, and they are not so created.

SANE EUGENICS. By MAXIMILIAN P. E. GROSZMANN. pp. 12.

Dr. Groszmann intimates, by his title, that some suggestions regarding eugenics are not sane. In this we agree with him and commend his carefully and temperately prepared article to our readers. It is refreshing to have a writer upon this subject admit that man is more than a mere animal.

Among other articles, the *Eugenics Review* for July contains the following:

The Cost of Degeneracy, by Major L. Darwin.

The Influence of Disease upon Racial Efficiency and Survival, by Prof. J. A. Lindsay.

The Effect of Economic Conditions on the Birth-rate, by W. C. Marshall.

The French Commission on Depopulation, by Honorable H. Onslow.

Eugenics and the Public Health, by S. Gotto.

The Illuminating Engineering Society, Its Work, Purposes and Membership Committee, is the title of a leaflet issued by this enterprising society, giving an account of its organization, development of the work that it has done and the advantages of membership in it. Presumably, copies can be secured by addressing the general office, 29 West 39th St., New York.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list records the publications received (other than periodicals in exchange) from July 22 to September 17, 1913, inclusiv.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Bureau of Labor:
  Bulletin No. 123. Employers' Welfare Work.
  Bulletin No. 131. Union Scale of Wages and Hours of Labor, 1907 to 1912.

Thirteenth Census of the United States: 1910. Volume II. Population. Reports by States with statistics for counties, cities and other civil divisions. Alabama-Montana.

Proceedings of the American Philosophical Society, Vol. LII, No. 210, May-August, 1913.

Real and Pseudo-Expert Medical Testimony before Courts and Juries. By C. H. Hughes, M.D., St. Louis, Mo. (Reprint).

Hazing Psychopathy: A Warning Note from a Psychological Standpoint. By C. H. Hughes, M.D., St. Louis, Mo. (Reprint).

Brain Menace to Man and Nation of Alcoholic and Other Narcotic Neuropsychopathy. By C. H. Hughes, M.D., St. Louis, Mo. (Reprint.)

Bureau of Mines:
  Bulletin No. 49. City Smoke Ordinances and Smoke Abatement.
  Technical Paper No. 15. An Electrolytic Method of Preventing Corrosion of Iron and Steel.
  Miners' Circular No. 12. The Use and Care of Miners' Safety Lamps.

Department of the Interior:
  Bulletin No. 56. First Series of Coal-dust Explosion Tests in the Experimental Mine.

Report of the Mine Inspector for the Territory of Alaska to the Secretary of the Interior for the fiscal year ending June 30, 1912.

List of Current Medical Periodicals and Allied Serials of the John Crerar Library, Second Edition, April, 1913. Also list of Serials and Series Analyzed.

La Cronica Medica, No. 583 to No. 586.

INSTITUTIONS OF LEARNING.

California: University of California, Publications, x, 5, Aug. '13. University of Southern California, Bull. viii, 3, Jl. '13. *Canada:* Annuaire de L'Université Laval pour L'Année Académique, 1913–14. McGill University, Annual Calendar, Faculty of Medicine and Department of Dentistry, 82d Session, 1913–14; 10th Session, 1913–14. *Connecticut:* Wesleyan University, Bull. vii, 2, Je. '13. *Illinois:* Eureka College, Bull. xii, 2, Jl. '13. Loyola University, St. Rita's Research Laboratory, Bull. i, 1, Je., 2, Jl., 3, Aug. '13. University of Chicago, Circular of Information, xiii, 4, May '13. *Iowa:* Coe College Courier, xiv, 1, Aug. '13. *Kansas:* Ottawa University, Bull. xi, 1, Jl. '13. *Maine:* Bates College, Bull. 10th s, No. 4, Jl. 15, '13. *Maryland:* University of Maryland, 107th Annual Announcement of the School of Medicine, Session 1913–14. *Minnesota:* University of Minnesota, Bull.

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THE SCHOOLHOUSE AS A CRIME CONTRIBUTOR.[1]

By EDWARD C. ELLIOTT, Ph.D., Professor of Education, University of Wisconsin, Madison, Wis.

There is, I know, a suggestion of the commonplace, as well as a trace of extravagance of statement, in the title attached to the present paper. The mooted interrelationship of education and criminality is altogether too trite for any speculative controversy on this occasion. On the other hand, there is some novelty in entering an indictment against a malefactor of brick and mortar; an indictment, the specific character of which may justify the apparent exaggeration of the title.

The principal count may be stated briefly thus: That the typical American schoolhouse of to-day exerts an influence, none the less potent because indirect, for the establishment and stimulation of those non-social attitudes and acts that we call criminal tending. By "schoolhouse" is meant the entire complex of material surroundings and physical arrangements making up the immediate environment of the typical public school—buildings, grounds, and equipment—the environment in which each generation of children spends a large share of its plastic years, and from which are received many important standards of conduct for adult life. By criminal tending attitudes and acts reference is not exclusively or even primarily to those invasions of property and person usually recognized as criminal. Rather, there has been kept in mind the increasing number of non-social offenses that constantly and insidiously aggress morality and public welfare; offenses that, while not technically criminal, are the general causes of criminality, and against which customary legal entrenchments have thus far afforded but an uncertain protection.

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[1] Read before the American Academy of Medicine, at the Thirty-eighth annual meeting, Minneapolis, June 13, 1913.

The specific charge brought against the modern schoolhouse is that of contributory negligence. In effect, this negligence is ultimately equivalent to direct commission.

The most evident grounds for the charge of negligence—the neglect of health conditions—I have for the most part disregarded. Contemporary social and medical sciences have combined with the best of our educational practice to defend the principle that the moral-social human being is a health-armored human being. And so we of the schools, with the assistance of the medical profession, are insisting that children in school shall be provided, as a guarantee of both private and public morality, with an environment of fresh, temperate, dustless air; an environment outwardly clean, spaced with sunlight, and germless; an environment equipped in such a way as to make possible right physical postures and behavior. We seek to magnify the influence of this environment by instruction in hygiene, by organized physical activities, and by the various forms of medical inspection and supervision. The modern school now intones: "*Witness thou, oh people, the perfection of the bodies of your children.*"

Our social creed binds us to the belief in the relationship of muscles and morals, of contagion and crime.

So far, so good. But a greater task yet lies before the school. The successful performance of this task is dependent not upon instruction, not upon the conventional protective defenses, not upon the preventive measures of your medical science. It depends upon an entirely new conception of the school as an organized thing of brick, stone, mortar, lumber, and land; a new conception for the establishment of which, in the public conscience, the medical profession is equally responsible with the educational profession. This new conception recognizes and emphasizes the influence of the external physical environment of the school as a neglected factor in the making of the moral child and of the social citizen. Up to the present moment, the relation of education and criminality has been narrowly interpreted, either in terms of intelligence as increased through instruction, or in terms of physical condition as improved through care and protection. To many of us engaged in the serious study of education as the greatest of the social constructive professions, it appears that another item must be considered along with instruction and hygiene before the influence of the school will be positive in producing individuals possessing permanent behaving tendencies of the non-criminal sort. Broadly speaking, this new item is adequate and proper material provision in the public school for responding to the normal demand for *activity* on the part of both children and adults. Until this is brought to pass, the American school will be a guilty contributor towards delinquency. Our ethics and our medicine have been too individualistic. The moralist and the hygienist, to make a bold assertion, have regarded the individual, particularly the child in the school, as something that could be made morally antiseptic as easily as he could be made physically antiseptic.

Scanty isolated illustration must suffice.

Just now the subject of physical morality occupies a large place in current thought. We are becoming more and more concerned with the possibility of making an effective program of public instruction inside and outside of the school, in the matter of sex hygiene. Of what avail is such a program so long as the one place in the schoolhouse where sex obtrudes itself represents too often conspicuous uncleanliness, sanitary incompetence and evil suggestiveness. As long as the larger per cent of American schoolhouses have their present inadequate and uncleanly toilet provisions and arrangements shall we have a contagious centre for immorality.

There is, the country over to-day, an insistent need for the empowering of State Boards of Health with efficient authority to clean up not only our dirty physical schools but our dirty moral schools. This is easy to assert but difficult of performance. A case in point is that of an eastern state where the conditions to which I have just referred are notoriously bad. The president of the State Board of Health told me a few days since, while discussing the possibility of a more effective enforcement of the law now giving to that board the power to condemn schools with improper and unsanitary outhouses, that a proper enforcement of the law would mean its immediate repeal by the Legislature. A study of the social and educational situation in that state convinces me that he was right. There is a vast difference between clean statutes and clean schools.

The American schoolhouse is primarily a contributor to our criminal account because it fosters just that kind of uncleanliness in which the seeds of criminality find a ready growth. A large part of the problem of social hygiene centers in one part of the American schoolhouses.

The child of the city to-day is the child of the streets To keep the child off the streets is next to an impossibility. His presence there presents not only an educational problem but a social issue of increasing magnitude. The crime-preventing schoolhouse must provide, within and without, for proper play space for the children of its neighborhood. This schoolhouse must constitute itself a center for the physical and social activities of children outside as well as inside the school if it would successfully counteract the destructive influences that now characterize the streets of the American city. The schoolhouse of the average American city cannot be held guiltless so long as it fails to compete with the alley.

The schoolhouse that keeps bankers' hours is only half a school. Within a few weeks the board of education of a middle western city ordered all-night lights placed at the darkened entrances of all public school buildings. The reasons therefor were obvious. A good police measure, but a doubtful educational policy. The light might better have been provided for the inside and not for the outside of the building. Until the American schoolhouse is constructed so as to make proper provision for the legitimate recreations and amusements of our civilization, your medical sociologist will have an increasing task before him. If we are to fight the devil with fire it is not unlikely that the billiard table and the dancing floor will find a place in the completely equipped and socially enlarged American school building.

The schoolhouse that remains closed for one-third to one-fourth of the year certainly presents a defenseless social policy. For the city child a summer vacation represents a crisis in moral development. The criminal responsibility of the schoolhouse will not be removed until it undertakes to be in operation throughout the whole year, and in a way that will meet the instinctive needs of children and communities.

The most characteristic American immorality is political immorality. The American schoolhouse must be constructed so as to enable its use as a common meeting place for the discussion of political problems and social issues. "Keeping schools out of politics" is a pernicious doctrine. If the American schoolhouse is to be the real temple of democracy it must be constructed and arranged so as not only to safeguard children from physical ills and to promote their best physical development, but also to serve as a shrine in which our people may protect themselves from the criminal furies of modern political life.

So long as we regard the schoolhouse as an influence apart from normal daily life will it remain a factor in the development of the abnormal and the artificial. Our first school buildings were designed and arranged by theologians and pedagogues. Next came the architects and the engineers, who were followed by the physicians and the hygienists. To-morrow the ideals of the humanist will control; ideals that seek to combine the necessities of instruction and of art, of construction and of health, of activities and of morals. All, pedagogue, architect, engineer, physician, must unite to make the schoolhouse sterile of the germs of immorality and criminality.

THE PHYSICAL BASES OF CRIME: FROM THE STANDPOINT OF THE JUDGE OF A JUVENILE COURT.[1]

By EDWARD F. WAITE, Judge of the District Court, Minneapolis.

Let me begin by saying that my paper will be even more limited in scope than the assigned title necessarily implies—for I shall present what I have to say from the standpoint of the judge of a particular juvenile court—that of Minneapolis.

These meetings look toward remedy and prevention. It is, therefore, fitting that we should expressly relate our study of the general theme to those individuals in whose cases remedy and prevention are most practicable and most important—children and youth. We are thus studying, however, the general problem of crime, which, in the words of the recent Massachusetts Commission appointed to investigate this and similar questions, "is largely the boy problem and the girl problem; for the habitual criminal—the man who takes to crime as a trade—as a rule begins his criminal career when he is young."

We speak of juvenile crime and criminality; but under the laws of Minnesota and many other states children under the age of seventeen do not commit crimes. They do pretty nearly all the things that are crimes when done by adults, but in the case of the child the law regards these merely as acts of juvenile "delinquency." This is not a mere euphemism; it reflects a difference in the attitude of the state toward the young offender. But these acts have their inherent social and moral character, quite independently of legal terms, and it is proper here to regard them as crimes. Many acts of delinquency are not crimes in their moral aspect; but as a rule those of which the courts take cognizance are evidences of such inability or unwillingness to exercise self-control as to imply at least potential criminality. How many acts of juvenile delinquency are committed, and who commit them, can only be authoritatively determined by proceedings in court. But it is certain that only a small proportion of the offenders, and a still less proportion of their acts of delinquency ever come before the court. Those that do must furnish the data for such inquiries as this; and it is probable that they are fairly representative of the whole number.

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[1] Read before the American Academy of Medicine at the Thirty-eighth annual meeting, Minneapolis, June 14, 1913.

In a state of savagery or anarchy much that we call crime would be the natural outworking of superior intelligence and prowess. But in the social state the individual must at so many points adjust his conduct to the public needs that willingness and ability to exercise self-control are the distinguishing marks between the law-abiding and the lawless. The less the intelligent self-control the greater the lawlessness. The criminal is one who in matters of serious social moment refuses or fails to restrain his impulses in obedience to the requirements which society has imposed for the general welfare. The child who, according to his years and understanding, falls within this class, is the "juvenile delinquent" we are now considering.

The scientific study of juvenile offenders has been so recent and sporadic that reliable data in this field are not abundant. Percentages of physical defects among school children generally, reported from different cities, show such wide variation as to clearly indicate important differences in standards or in thoroughness of test. For the whole country 75 per cent is accepted as substantially correct. Wherever the comparison has been made the proportion of physical defectives is found to be greater among juvenile delinquents than among school children generally. I venture to quote some local figures. For somewhat more than a year past boys found delinquent in the Minneapolis Juvenile Court have been subjected to a thorough physical examination by Dr. Harris Dana Newkirk. Out of 204 representative cases, 178 (87 per cent) were found defective. Of 124 who were in court for the first time 105 (84 per cent), and of 80 repeaters, 73 (90 per cent) had physical defects. The average number of defects per individual was much greater among repeaters than first offenders. Medical inspection of Minneapolis school children last year disclosed 71 per cent physically defective. The most common defects of delinquents were as follows:

96 boys had phimosis;
84 boys had enlarged tonsils;
75 boys had seriously bad teeth;
58 boys had adenoids;
58 boys had defective vision.

Here we have causes leading toward bad conduct as naturally as the tipping of the first of the line of dominoes, which as children we used to stand on end for the experiment, produced the fall of the last. Notice that I say "leading toward"—not *to*. We are not yet prepared to say that physical defect is *the* cause of crime in any given case. A child's motives and reactions cannot be reckoned with quite like a row of dominoes. But I say without hesitation that it is often *one* of the causes—and an important one. The oft-stated sequence in the case of adenoids seems *a priori* sound: mouth breathing; often deadening of hearing with loss of mental acuteness and alertness; defective oxygenation of the blood; starvation of nerves and brain; irritability and dullness; inattention and restlessness in school; rebukes from teacher, discouragement and resentment; loss of grade—more discouragement and resentment; truancy; idleness; bad companions; lawlessness; crime. Phimosis produces irritation tending to vicious practices which in time, if long indulged, break down the moral tone, defile the imagination and weaken the will. Hence, come often sexual immorality and crime. Bad teeth mean bad digestion, malnutrition, feeble muscles, lack of that important part of training of mind and will depending upon muscular reaction—perhaps cerebral anemia and nervous disorders of the most serious character, from which the step to crime is very short and easy. Unrecognized and continued eye-strain may be reasonably charged with a share of responsibility for cases of juvenile wrongdoing.

I do not claim that juvenile delinquency can be eliminated by the physician's medicine case, the surgeon's knife, or even by hygienic conditions in home and community. But beyond question these instrumentalities can and do aid greatly in the work of remedy and prevention. If physical defects tend to demoralize character their timely removal must modify the tendency. Such experience as is available confirms this, but it is too early to speak with confidence of definite results. Our local experiment is young, and few reliable details are to be had from other sources. I could cite many instances of improved conduct following the removal of adenoids, the fitting of glasses, etc. But conclusions can hardly be drawn from a year or two of observation, since age, environment and special experiences must be given due weight in determining the genuineness and permanence of seeming change in character, and the real causes of such change.

For reasons which I will not stop to enumerate we are only just beginning our systematic examination of delinquent girls in Minneapolis. Doubtless the same considerations apply to them which I have noted in the case of delinquent boys. Recently a girl who had shown unusually flagrant sex delinquency was found to suffer from lesions and malformations which made chastity almost an impossibility for her in the environment where her lot was cast. We do not know that relief from these handicaps will make her virtuous, but we do know that henceforth the path of virtue will be less difficult for her to follow.

The school principals tell us that irregular attendance at school is the chief cause of retardation among school children, and that sickness—at least according to the excuses furnished by parents—is the principal cause of irregular attendance. A recent study by Miss Christ, of the University of Minnesota, of 236 boys and 95 girls, consecutively found delinquent in our Juvenile Court, showed that 70 per cent of the boys and 91 per cent of the girls were retarded one year or more in school from a standard of seven years for the first grade, and so on. The corresponding frequency of retardation among Minneapolis school children generally is 27 per cent for the boys and 23 per cent for the girls. On the same basis the average amount of retardation among the laggard Minneapolis school children is about 0.4 of a year; among consecutive delinquent boys who are laggards in school 1.4 years and among the consecutive delinquent girls 2.6 years. We may not conclude too hastily from these comparisons that school retardation is in itself a cause of delinquency, for it is probable that in many cases—perhaps in most—both retardation and delinquency spring from the same sources. But it seems plain that the *tendency* of mere retardation is toward delinquency. The child who is behind his normal grade naturally loses interest and ambition; and the train of ill effects upon character and conduct is obvious. So far, therefore, as medical inspection of school children lessens retardation by detecting and checking acute disease it tends to reduce juvenile delinquency.

Neurosis and epilepsy seem to fall naturally into a middle group between physical defects and feeble-mindedness, in such a study as we are now making. Dr. Healy reports that out of nearly 1000 juvenile "repeaters" passing through his laboratory, 7½ per cent were definitely ascertained to be epileptic, while still others were suspected. The accepted percentage of epileptics in the community at large is one-fifth of one per cent. "Some of the worst repeaters are epileptics," he says, "and many of the gravest crimes are committed by these unfortunates." The unguarded epileptic girl, having the mental brightness of a normal child with only the capacity of a high-grade imbecile for self-control, is especially dangerous to herself and the community. Frequently the epileptic boy has good capacity, but cannot hold his job on account of his infirmity. Epilepsy—idleness—crime, is the vicious sequence. It is of the utmost importance, therefore, that the young epileptic should be discovered and treated before his potential criminality has been developed.

In the pitiful group of society's unfortunates no figure seems at once so pathetic, so hopeless and so menacing as the high-grade feeble-minded child—the type which has been commonly defined, since the report of the English Royal Commission on the Care of the Feeble-Minded, a few years ago, as "a mental defective who is capable of earning a living under favorable circumstances but who is incapable of competing on equal terms with his fellows, or of managing himself or his affairs with ordinary prudence." Such a person has two serious handicaps—increased temptation by reason of social and industrial disadvantage, and decreased power of resistance. On this point the authorities are agreed. Says Dr. Walter E. Fernald, Supt. of the Massachusetts State School for the Feeble-Minded: "Every imbecile, especially the high-grade imbecile, is a potential criminal, needing only the proper environment and opportunity for the development and expression of his criminal tendencies. * * * * * * Maliciously mischievous children, runaways and vagrants, the incorrigibles, disorderly and ungovernable children, are often of the imbecile type." These statements are amply confirmed by tests of the mental condition of offenders against the law, younger and older. The Seattle Juvenile Court, one of the few that command the services of an expert psychologist, reports that 18.5 per cent of the delinquency with which it deals is attributable to mental defect. Dr. Goddard is authority for the statement that not less than 25 per cent of criminals who come before the courts are feeble-minded, and that the proportion of juvenile delinquents is much larger. Somewhat more than 200 of our local delinquents have been examined with the Binet-Simon tests by Professor James Burt Miner, of the University of Minnesota, and his assistants. Among a hundred consecutive cases of the more serious types of offenders, either repeaters or those sent to the County Detention Home or State Training School, at least 16 were mentally retarded three or more years. If we exclude those for whom the tests are not regarded as adequate this 16 would amount to about 25 per cent.

After two years of experinece in the Juvenile Court, following rather extensive contact with older offenders, I am satisfied that the most perplexing element in the problem of juvenile criminality is feeble-mindedness. Many physical causes contributing to crime may be remedied; homes may be improved and other conditions of environment made more fit for the normal development of childhood. But the case of the feeble-minded child is hopeless so long as he remains in the stress of community life. In the words of Dr. Healy: "The mental defective is suitable neither for probation, reformatory education nor punitive measures. Custodial care alone is of service, and in the case of the criminally inclined defective the courts should directly commit to, and the state protect itself by, permanent guardianship." The outlook for girls and women of this class is well stated as follows in the report of the Massachusetts Commission: "They are never able to support themselves. If discharged they at once return to a vicious or criminal life. They are certain to become sexual offenders and to spread venereal disease, or to give birth to children as degenerate as themselves. Their numerous progeny are certain to become public charges as diseased or neglected children, imbeciles, epileptics, juvenile delinquents, or later on as adult paupers and criminals."

No juvenile court is properly equipped for its work without a competent expert to detect the feeble-minded child on his first appearance; and when the defective condition is clearly shown the child should be at once committed to a proper institution, to be detained at least until those who are qualified to judge declare him fitted, through such training as he can assimilate, and the changes wrought by advancing years, to take a sheltered place in the community.

This study would not fulfil its purpose if it did not leave with those who have followed it some concrete suggestions. These must be brief and summary:

(1) Medical inspection of school children should be adequately provided for.

(2) Remedial measures for physical defects of school children should be vigorously urged, and provided at public expense when necessary.

(3) Special pains should be taken in the public schools to detect neurotics and epileptics.

(4) The schools should provide psychologic tests for retarded children, to ascertain those who are susceptible of improvement and those who are not.

(5) Improvable retarded cases should be brought up to grade as quickly as possible, through special classes and modified curricula.

(6) Non-improvable retarded cases should be eliminated from the schools, and parents urged to commit them to custodial care.

(7) There should be conducted in connection with every juvenile court a system of expert physical and mental examination of delinquents, not only for the purpose of assisting the court in appropriately handling the individual cases, but also to collect

data for the scientific study of the causes of delinquency. Where the law does not permit compulsory examination and treatment full power in this regard should be given to the court, under proper safeguards. Parental scruples should be treated with respect, but the public safety is the supreme law; and the considerations that have led all civilized communities to enforce reasonable measures against the spread of contagious disease have their analogies in the field of crime-prevention.

(8) Generous provision should be made by the state for the custodial care of feeble-minded children.

(9) At present the custodial care of the state over juvenile offenders must end at the age of majority. Whatever may be the probability or practical certainty that a young person will at once resume a career of crime, the restraining hand of the state is then completely lifted. Our correctional system should be supplemented with permanent custody for the plainly incorrigible—defectives with criminal tendencies.

(10) Where there is doubt about the power of a juvenile court to commit children in appropriate cases to institutions for the special care of the feeble-minded and epileptic, this doubt should be removed by express legislation. A similar law relating to adults could be wisely administered, with untold benefit to the community, to prevent the breeding of imbecile and probably criminal offspring by defective and degenerate parents. The Jukes, the Kallikaks and the Ishmaels are not confined to New York, New Jersey and Indiana. Their children are scattered throughout the land, mating within and without the forms of law,—an unspeakable curse to themselves and to society.

(11) By further safeguarding marriage, and by such other legislation as may be prudent and just, we should do all that is practicable to restrain the perpetuation of their kind by those who are, on account of disease or abnormality, physical or mental, demonstrably unfit for parenthood, but not appropriate subjects for segregation under custodial care.

THE PHYSICAL BASES OF CRIME AS OBSERVED BY A PRISON PHYSICIAN.[1]

By Rock Sleyster, M.D., Supt. Wisconsin State Hospital for Criminal Insane, formerly
Physician in charge of the Wisconsin State Prison Hospital, Asst. Secretary State
Medical Society of Wisconsin, Member American Medical Assn.,
American Institute of Criminal Law and
Criminology, etc., Waupun, Wis.

The whole superstructure of modern scientific medicine is built on a foundation formed by the study of pathology and etiology—a study of the actual condition and the causes that have contributed to produce it. I have tried to base my study of the criminal on the same scientific foundation—a study of the criminal as he is and a search for all the causes that have had a direct or indirect influence in making him what he is. This could be accurately accomplished only by collecting data which I herewith present in tabulated form. In offering these figures I wish to state that no reader will realize more keenly than I their shortcomings and imperfections. The prison physician of to-day is a research worker only to such an extent as he is willing to make a personal sacrifice of time for his love of science. Had I been able to devote my time to research work alone, this fertile field for investigation would have yielded a worthier harvest.

The accuracy of this data will be questioned by the trained investigator. I wish to state at the outset that no absolutely accurate data can be gathered at our prisons without the aid of a trained field worker, and then, only in selected cases. It will be noted that the tables here given which are not dependent on the veracity of the criminal examined, are based on a study of 1521 prisoners, while those based on information given by the prisoner are calculated on less than half that number. This means that in less than half the cases have I been able to corroborate the prisoner's statement from outside sources or have considered the information he gave me as not sufficiently reliable to accept it for statistical purposes. I believe these tables to be very fairly accurate and not exaggerated in any way for I have taken every possible care in gaining the information. I have included at no time the statements of any man whose truthfulness I have doubted and I know my men through daily association with them. Then, too, the tendency of the untruthful is to minimize and not exaggerate anything which reflects on them or their's. The figures given in the table on heredity, large as they may seem, would be increased by a thorough investigation of the family, for many of the men know little of relatives at a distance, or of those with whom they have not kept in touch.

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[1] Read before the American Academy of Medicine at its Thirty-eighth Annual Meeting, Minneapolis, June 14, 1913.

With the exceptions of the tables on mortality and "sick call," I have reported on the recidivist or habitual criminal as well as on the general prison population. The former class is made up of men who have served one or more previous terms in a prison, reformatory or reform school (jail sentences not included). The data here given are of the most interest to the student of criminology, for it is based on a study of the true criminal class. The prison class, represented by the larger number, would be somewhat misleading, for it is made up of first offenders (about 75 per cent), habitual criminals, criminals by accident who are normal in every way and, doubtless, some innocent of crime. The tables speak for themselves and I shall discuss them very briefly.

Ferri asks: "Is the criminal, and in what respects is he, a normal or an abnormal man? And if he is abnormal, whence is the abnormality derived?" He then states: "We must study the organ before the function, and the physical before the moral." My first effort in the study of the convicted criminal was to ascertain as nearly as possible in what respects he differed from the average American citizen.

PHYSIQUE.

The table "Physique" is taken from a report I published in the *Journal of the American Medical Association*, May third of this year. I quote briefly from that:

> The results of my investigation of height at the Wisconsin State Prison are quite similar to those of the anthropometric committee of the British

Association for the Advancement of Science, though I am able to report on only half the number. Taking the average of 221,819 Americans examined by forty-three old-line life-insurance companies, as reported in 1912 by the Actuarial Society of America, as a type of American for comparison, I find the Wisconsin convict, as shown in Table 1, to be 1.8 inches below the average American height. Taken as a whole, the 1,521 criminals reported on are, at the average of 36 years and 6 months, mature men, and have reached their full growth and development. A study of Table 1 will show that the Wisconsin convict, who cannot differ radically from the average white convict of any other state, is physically most markedly inferior to the average American citizen in height. He, a man grown, lacks 1.4 inches of the stature of the average freshman at our state university, and is 2 inches shorter than the average Harvard student, and it must be remembered that few of these students have reached their full growth and development. Likewise, he lacks 1.3 inches of the height of the men and boys who enlisted in the Civil War, and is 3 inches inferior in height to the Fellows of the Royal Society of England and English professional men.

I find the Wisconsin convict well nourished. He weighs little, if any, less than the average American citizen of his height. His chest measurement is very fair. The expansion is small but this is to be expected and means little except that he has not learned to breathe properly or has suffered from continued confinement.

The figures given for the recidivists or habitual criminals are by far the most significant and show the marked physical inferiority of the chronic offender. These men of an average age of 33 years lack 2.1 inches of the height of the average Wisconsin boy just out of high school, lack 2.5 inches of the height of the average American of their age and 2.7 inches of the height of the average Harvard student as reported by Professor Sargent. It will be noted that they are well nourished but are markedly deficient in chest and expansion measurements. These last measurements may be partially accounted for by the lack of physical exercise in the open air while subject to previous incarceration in this and other institutions. This could not by any argument, however, account for the degree of deficiency in stature, which can be explained only as a marked and unmistakable stigma of degeneracy. Associated with these, I find in this class the highest percentage of other physical stigmata, such as degenerate palates, ears, facial and cranial asymmetry, etc., though these are merely mentioned and not covered in this paper.

The chart on "Temperature, Pulse and Respiration" shows both classes with an average subnormal temperature and a high pulse rate. I have found only one class of criminals who differ from these figures. A study of 269 murderers showed a normal pulse and a temperature of 97.8°.

PHYSICAL DEFECTS.

A tabulation of the principal findings in our physical examinations will be found in the data given under the head "Physical Defects." The degenerate and subnormal seem especially prone to diseases of the chest. Active and old pulmonary lesions are extremely common and a large proportion require constant observation and care to guard against active tubercular development. Pigeon-breasts, poorly developed chests and stooping shoulders are almost the rule among the recidivists. Valvular heart lesions are extremely common. A reference to the mortality table will show that 55 per cent of the deaths at the Wisconsin State Prison during the past ten years have been from pulmonary and cardiac disease, though the former has been greatly reduced during the last four years by a thorough entrance examination, close observation of suspected cases and an out-of-door ward for treatment.

Defective sight is found in about a third of the prisoners. Astigmatism, strabismus and myopia are relatively frequent, and no more practical means for the reformation of the criminal can be found than to relieve him of the nervous strain incident to these conditions. I can emphasize nothing in this paper stronger than the necessity of a consulting oculist to make regular and frequent visits to every penal institution.

More than half of the men need dental work badly when received and in fully a third, the condition is such as to require immediate attention. Fully 30 per cent should have been under the care of an orthodontist during their developmental life that the dental deformities so common might have been prevented or at least corrected. Nasal stenosis is commonly found, and I believe many of these cases could have been prevented by a widening of the dental arch in early life. I consider the daily attendance of a dentist in any institution of over five hundred an absolute necessity.

DISEASE AND ACCIDENT.

I have tabulated under the head "Medical History" the nine diseases, a history of which is most often found together with their frequency. I have also included head injuries though I seldom attach any importance to a history of this and I believe it so seldom an etiologic factor that the figure given is of practically no value. The one thing that stands out above all others in this table is the frequency of venereal disease. Nearly half admit a history of infection. The importance of this as a causative factor can, however, like alcohol, be easily overrated. It is certainly as much a symptom of degeneracy as a cause and is always frequent among those of easy morals. It has been impossible, as will be easily understood, to gather any data regarding venereal disease in the parents and grandparents of these men.

The importance of a personal history of typhoid, pneumonia, articular rheumatism, malaria and other infectious diseases given in the table is a subject for speculation. In individual cases they have, no doubt, been a contributing factor.

HEREDITY.

The criminal is but one of the many products of bad heredity. He is the product of the same conditions that produce the insane, the epileptic, the feeble-minded and other degenerates. His crime is but a symptom of his degeneracy, and a study of his habits, life and general morals disclose many more that are indicative of the defective stock from which he comes. The table I herewith present needs no explanation. It tells its story at a glance. In taking the family history I have included parents, grandparents, brothers, sisters, uncles, aunts, and cousins under all headings except "intemperance." The figures on alcoholism are limited to the father.

DEVELOPMENTAL INFLUENCES AND EARLY ENVIRONMENT.

The influence of heredity should always be considered with the developmental influences and early environment. If these are good the force of heredity, if such there be, may be checked. If these are poverty, disease, city slums, idleness, vicious associates, and drunkenness, the best of breeding may fail to protect. The early loss of a parent's influence; the teaching and example of the drunkard, the thief and the prostitute; the filthy streets and slums of a great city for a playground; the early use of alcohol and tobacco; the lack of moral training—these are the influences that conspire to undo the breeding of centuries and against which the individual of weakened inhibitions who comes from defective stock has no chance at all.

Wisconsin is an agricultural state. We have but one large city, yet, fully half of the criminals in our state prison played in city streets with alley associates. Half of these were from the slums and as little ones knew the meaning of want. A half of our prisoners were denied the influence and surveillance of a parent through death, desertion or divorce. In more than a quarter of the cases they were never able to "get along" at home and avoided home as much as possible. The extent to which alcohol and tobacco were used before the fifteenth year shows the lack of parental care and the early acquirement of vicious habits which left their mark in a stunted mental, moral and physical growth.

EDUCATION AND INDUSTRY.

A study of the educational record of these men reveals a large percentage who have never had the opportunity of school work. More than half have reached the fourth grade only, while less than a fifth have finished the grades. The truancy record is high and shows the early tendency to shirk responsibility.

There is something in the criminal make-up that antagonizes any sustained attention or prolonged exertion. These are accompanied by mental fatigue. He instinctively avoids them and craves a change, excitement and stimulants. A large percentage of these men were furnished with the opportunity of a higher education than they received but were unable to stand the monotony of continuous application. This instability is shown again and again in their histories. Sixty-six per cent of our population and ninety-three per cent of our recidivists have never worked at one job for a whole year. More than half have never been able to apply themselves long enough to acquire a trade or become skilled in any line of endeavor; yet, nearly half, as shown in the table, were at work before they were twelve years of age. In considering the early manifestations of this most prominent characteristic of the criminal class, natural instability, as evidenced by these tables, the lack of parental influence and supervision must be considered in many cases.

PERSONAL HABITS.

More than half of our prison population have used alcohol to excess and less than ten per cent have abstained from its habitual use. The inexperienced investigator would, after interviewing the population of any prison, conclude that almost all were there as a result of acute alcoholism. About eighty per cent claim that they were intoxicated at the time they became involved in their conflict with the law and blame all their misfortune to the use of stimulants. This is far from true for, though many of the petty crimes and crimes of impulse are the direct result of acute intoxication, the intoxication is as often merely an associate manifestation of degeneracy. Excessive indulgence results in lessened earning capacity, a low moral sense, and an appetite for alcohol that must be satisfied, if necessary, by theft or fraud. It degenerates the normal and makes short work of the subnormal. Alcohol and degeneracy are unquestionably the two most potent factors in the vice and crime problem, and they usually go hand in hand. Alcohol leads to degeneracy and degeneracy to alcohol. The degenerate is congenitally defective in will-power and nervous structure and is so predisposed that alcoholism becomes merely a symptom of his degeneracy. Alcoholism is part of a vicious circle and as often an effect as a cause.

But 3.7 per cent of our population and 8.3 per cent of our recidivists have been addicted to the use of morphine or cocaine. The physical and moral effect of these drugs are too well known to need attention in this report. Throughout the south and in institutions drawing largely from a great city the use of these drugs is a much more important etiologic factor.

The frequency with which the criminal visits the prostitute is shown in the table on personal habits. It is the rule rather than the exception, and another manifestation of his degeneracy. He has been a slave to sexual excitement, both natural and unnatural, from his early life, and, even when confined in prison, gives much of his time to thoughts of a sexual nature as evidenced by the quantity of obscene and filthy notes and pictures which are found whenever a search is made of his cell or person. In from twenty to forty per cent, his reading has been limited to suggestive, trashy or "Dead-Eye-Dick" literature. It can be said to his credit, however, that he reads good literature eagerly in prison when unable to get the other kind but it is not the reading of his choice. His craving of excitement and stimulation of the senses is shown in the reading of his choice and the resultant mental processes through suggestion should not be underestimated.

The efforts of the reformer have failed in the past because they have been based on the supposition that the criminal was merely vicious and was in need of punishment and moral persuasion. There has been an almost total disregard of the physical conditions back of a perverted psychology. Individual study and treatment in our penal institutions have received no attention whatever. The fallacy of the old system is the same as that of the old methods of study and treatment of disease. They were and are both failures for they do not recognize that before treatment can be instituted it is absolutely essential to get down to the individual causative factors. It is as illogical to expect results of a reformatory nature from the present methods which ignore etiology and individual study, as it would be to expect results from a board of health which ignored the water supply during an epidemic of typhoid, or from a physician who would treat a fever and disregard the infection which caused it.

Crime should be likened to a disease—it is a filth disease—and no disease can be eradicated or reduced to a minimum until we pay the same attention to the causes that we pay to the symptoms. Nor can results be expected until the fact is recognized that no two cases are alike, and the necessity of individual study and individual treatment realized. The average criminal is not the vicious, desperate character the lay mind pictures him, but rather the weakling whose powers of inhibition have been squandered by himself or his ancestors.

Crime is punished with three objects in view; *i. e.*, retribution, determent and reformation. We are accomplishing the first, but are we the other two? The constantly increasing number of recidivists we are receiving in our penal institutions shows conclusively that neither the fear of further punishment nor moral persuasion (and each have their place) are solving the question of determent or reformation. If our institutions are to do anything of permanent value for this man or that, we must get down to the bottom of things and find out what is making a criminal of him. He deserves, and we should give him, the same careful, scientific study that is given the insane, the epileptic and the feeble-minded. Then, and not until then, will the offender have the fullest opportunity to reform, the public the greatest protection from him and his kind, and the reformer the accurate data with which to combat the crime problem as a whole.

Physique.[1]

Number reported.	Average age.		Average height. *Inches.*	Average weight. *Pounds.*	Chest measure. *Inches.*	Expansion. *Inches.*
1521	36–6	Convicted criminals at Wis. State Prison	66.7	144.1	35.5	2.9
300	33–4	Recidivists	66	141.2	34.3	2.5
221819		*Americans examined by 43 old-line life insurance companies*	*68.5*	...	....	...
		Average Harvard student	*68.7*	*143*	....	...
800	*19–8*	*Freshmen at the University of Wisconsin*	*68.1*	*139.1*	*34.9*	...
353		*Students at Amherst College*	*68.5*	*143.4*	*36.9*	...
753666		*Soldiers enlisted in Civil War*	*68*	...	....	...
		English professional classes	*69.8*	*160*		

Comparisons of Temperature, Pulse and Respiration.[1]

Number reported.	Average age.		Average temperature.	Pulse sit.	Pulse stand.	Respiration.
1521	36–6	Convicted criminals at Wis. State Prison	98.2	81.9	88.5	20.3
300	33–4	Recidivists	98.4	85.1	93.4	20.5

[1] Reported in *Journal A. M. A.*, May 3, 1913.

PHYSICAL DEFECTS.

	592 prisoners W. S. P.		120 recidivists W. S. P.	
	Per cent.	No.	Per cent.	No.
Cardiac lesion	12.6	75	21.7	26
Pulmonary lesion	10.3	61	18.3	22
Defective sight (snellen)	31.9	189	35.0	42
Defective hearing (apparent)	5.4	32	8.3	10
Deformity (that might handicap in work)	7.4	44	8.3	10
Frequent headaches	12.8	76	15.0	15
Frequent insomnia	11.8	70	10.0	12
Frequent depressed	12.5	74	10.8	13
Hernia	4.6	27	5.0	6
Teeth in bad condition through neglect	46.3	273	40.0	48

TEN-YEAR MORTALITY TABLE.—WISCONSIN STATE PRISON.

(Two Five-Year Periods.)

Cause of death.	Deaths total number 1903–'12.	1903 to 1907 incl.	1908 to 1912 incl.	Average age at death. Years.
Phthisis	22	14	8	33
Diseases of the heart	17	9	8	55
Pneumonia	5	3	2	44
Cancer of the stomach	5	2	3	47
Nephritis	5	3	2	57
Suicide	4	4	. .	43
Cirrhosis of the liver	4	3	1	52
Diabetes	2	. .	2	24
Apoplexy	2	. .	2	62
Other causes	14	9	5	43
Total number	80	47	33	45
Average prison population	*643*	*603*	*684*	

MEDICAL HISTORY.

	592 prisoners W S. P.		120 recidivists W. S. P.	
Personal history of:	Per cent.	No.	Per cent.	No.
Venereal disease	40.0	236	50.8	61
Injury to head	11.2	66	12.5	15
Typhoid	10.8	64	2.5	3
Pneumonia	8.1	48	5.0	6
Articular rheumatism	5.8	34	4.2	5
Malaria	4.9	26	1.7	2
Diphtheria	3.4	20	5.0	6
Appendicitis	2.7	16	2.5	3
Small-pox	2.0	12	0.8	1
Pleurisy	1.3	8	1.7	2

Five Principal Complaints of 735 Men.—1912 "Sick Call," W. S. P.

	Total.	Per cent.
Number consultations in 1912	*3920*	
Rheumatism and conditions simulating same	366	9.3
Headache	362	9.2
Eyes	314	8.0
Constipation	308	7.8
Throat	144	3.6

Heredity.

	592 prisoners W S. P.		120 recidivists W. S. P.	
Family history of:	Per cent.	*No.*	Per cent.	*No.*
Epilepsy	13.2	*78*	15.8	*19*
Insanity	19.3	*114*	23.3	*28*
Feeble-minded	12.1	*72*	15.8	*19*
Other criminals	15.9	*94*	24.2	*29*
Tuberculosis	21.6	*128*	24.2	*29*
Intemperance (father)	36.8	*217*	40.8	*49*
Suicides	3.7	*22*	4.2	*5*
Parents related	1.8	*11*	2.5	*3*

Developmental Influences and Early Environment.

	592 prisoners W. S. P.		120 recidivists W. S. P.	
	Per cent.	*No.*	Per cent.	*No.*
Poverty	22.4	*133*	26.6	*32*
City streets for playground	46.4	*275*	65.8	*79*
Bad associates	60.1	*356*	88.3	*106*
Early loss of mother	19.8	*117*	26.6	*32*
Early loss of father	31.4	*186*	35.0	*42*
Parents separated or divorced	8.9	*53*	13.3	*16*
Step-parent	10.6	*63*	17.5	*21*
Lack home harmony	27.0	*160*	35.8	*43*
Early use of alcohol	40.4	*239*	55.0	*66*
Early use of tobacco	58.8	*348*	80.8	*97*
No church influence	17.5	*105*	23.3	*28*

Educational Record.

	592 prisoners W. S. P.		120 prisoners W. S. P. recidivists.	
	Per cent.	*No.*	Per cent.	*No.*
No school	22.3	*132*	12.5	*15*
To 4th grade only	50.3	*298*	56.6	*68*
To 8th grade only	17.6	*105*	24.1	*29*
High and up	9.1	*54*	6.6	*8*
Truant	33.5	*154*	59.0	*62*
Scholarship probably average	66.0	*304*	45.7	*48*
Scholarship probably below average	34.0	*156*	54.3	*57*

INDUSTRIAL RECORD.

	592 prisoners W. S. P.		120 recidivists W. S. P.	
	Per cent.	*No.*	Per cent.	*No.*
Work before twelve	45.9	272	39.1	47
Work before fifteen	84.1	498	82.5	99
Work before eighteen	95.3	564	95.0	114
Without a trade	50.5	299	61.7	74
Unsteady and changeable	66.9	396	93.3	112
Spendthrift	71.8	425	91.6	110

PERSONAL HABITS.

	592 prisoners W. S. P.		120 recidivists W. S. P.	
Habit.	Per cent.	*No.*	Per cent.	*No.*
Use of alcohol:				
Excessive	52.5	311	61.7	74
Moderate	37.8	224	28.3	34
Abstains	9.6	57	10.0	12
Use of morphine, cocain, or both	3.7	22	8.3	10
Visits prostitutes regularly	57.6	340	73.3	88
Bad reading only	19.9	118	42.5	51
Evenings spent in saloons, at cheap shows and on the streets	64.9	384	90.8	109

NATIVITY AND CONJUAL STATE.

	592 prisoners W. S. P.		120 recidivists W. S. P.	
	Per cent.	*No.*	Per cent.	*No.*
Foreign-born	30.3	179	20.8	25
Average time in U. S. of foreign-born	15 yrs.	..	11 yrs.	..
Married	18.9	112	15.8	19
Widower	5.6	30	5.0	6
Separated or divorced	25.1	133	25.0	30

CRIMES OF THE ADULT FROM THE STANDPOINT OF THE ALIENIST.[1]

By Frank W. Robertson, M.D., New York.

The call of the century has been for PROGRESS. How this call has been answered by the medical profession is demonstrated daily in practically every household of this great globe, but in none of its phases has the evolution of the Science of Medicine been more mildly revolutionary in its methods and more far-reaching in its effects than in the treatment of mental diseases. Not only has the method of treating the recognized mental disorders been rendered more rational, but the ranks of the criminal class have been invaded and the dungeons and chains made to give up their victims to the sane and humane treatment of the alienist, until to-day some mental derangement or defect is regarded as the most frequent cause of crime, and the criminal is treated accordingly.

In its conception of the causes and nature of insanity medical science has not only evolved a new order and new practices, but it has also revolutionized the social conception of the disease and accomplished the prodigious task of educating the public to an understanding of a certain constant and unchanging relation between crime and insanity. As a partial result, the State of New York, for example, maintains for those that commit crime while suffering from mental disease, two large hospitals designed to give humane care to that class of criminals who should not be punished for their acts, but who should and may, by proper care and treatment, be restored to the State as an economic asset instead of remaining its criminal liability.

To-day there are in these two institutions for criminal insane over thirteen hundred inmates, and that there are large numbers of insane men whose condition has escaped detection in our prisons, there is little doubt among those best informed upon the subject. As an example may be cited an analysis made in 1900 of the population of the New York State Reformatory at Elmira.[2] In a population of 1365 there were discovered in one year seventy-eight cases of insanity. It is interesting to note that of these only twenty-seven claimed they had not been previously arrested, the others having served time in jails, penitentiaries, etc. Of this seventy-eight, six had insanity in their ancestry; seven, epilepsy; and in twenty-nine cases there was intemperance in the parents. The cause of their incarceration was burglary, larceny and assault, in the order named, some having been convicted several times. This analysis did not take into account the cases of constitutional inferiority which were numerous, but only cases known to be dangerous to themselves, or to other inmates, and those whose mental condition rendered it impossible for them to be humanely cared for in an institution of that order.

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[1] Read by title at the Thirty-eighth annual meeting of the American Academy of Medicine, Minneapolis, June 14, 1913.

[2] Annual Report New York State Reformatory, Elmira, N. Y. for 1900, also 1901.

How much of the earlier crime of the unfortunates figuring in the analysis may have been due to their mental condition, which the writer was the first to diagnose, is purely problematical, but it cannot be gainsaid that in no small measure the crime and suffering these men represent has been committed and borne by individuals mentally irresponsible, deserving care rather than punishment.

It is to lessen the burdens thus carried by the mentally defective criminal, and through him those imposed upon the state and nation, that the alienist is now giving in large measure his time and thought. I would submit to you the four methods by which my personal practice and investigation have led me to believe the end desired may be best served:

(1) Greater care in detecting and segregating the insane and defectives in the community. The half-wits and "fools" that are permitted to roam unchecked as tramps and vagrants are potential forces from which the great army of misdemeanants is constantly recruited.

(2) Control of the social evil and venereal disease, thereby removing one of the most frequent causes of general paresis and defectiveness as a result of which crimes are frequently committed.

(3) Careful examination by a skilled alienist of all persons brought to the courts for crime, and the analysis of population in penal institutions with a view to removing defectives and insane to hospitals.[1]

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[1] "Recognition of the Insane in Penal Institutions a Factor in Diminishing Crime," in *Am. Journal of Insanity*, Vol. LX, No. 2, 1903.

(4) The immediate recognition of defectives as a class needing separate provision and treatment, and in very many cases the need of permanent custodial care.

While it is unfortunate that knowledge of the institutions committed to the care of the criminal insane has been used by some wily offenders as a means of escaping the consequences of their acts, it is hoped and believed that this disadvantage may be overcome. The late Dr. H. E. Allison confidently said:

> This mistrust will become less prevalent as the knowledge of the medical profession regarding the various forms of mental disease grows more exact and fixed, to the exclusion of those ephemeral and transitory manias, always of doubtful existence and now happily becoming, like other exploded notions, simply historical incidents of the past.

However, it is one of the present-day problems of the alienist, for it very naturally discredits in popular opinion the plea of insanity as defense of crime and arouses the suspicion of those concerned that it is the last resort of a hopeless defense. The fact that about twenty-five per cent of the life convicts in the prisons of New York are confined in the hospitals for the criminal insane is a testimony to what has been accomplished, and should be regarded as one of the advance steps of our day and generation.

I cannot bring this paper to its close without a more direct reference to the source of so much of our crime. It is only recently that a distinct awakening to the danger from the feeble-minded or mental defectives having criminal tendencies, has been awakened. The struggle for existence, which in our complex civilization each year is becoming more severe, causes these defectives to commit crime, whereas a few years ago they could have found some easy way of getting a living without having recourse to law-breaking. In appallingly large and ever-increasing numbers they are now filling our almshouses, jails, and penitentiaries, or wandering unrestrained about our city streets. I think I am making no mistake when I say that most alienists believe the time is not far distant when it will be necessary to provide special accommodations for them, especially in view of the short term sentences usually imposed upon them which keeps them, like the proverbial poor, ever in our midst a source of constant pollution.

As a class, they unquestionably constitute the most serious menace confronting our statehood to-day: not alone by their present numbers but by the rapidity with which they multiply. Immigrants undoubtedly bring in much defective germ plasm. Davenport says: "The hereditarily untrainable and socially antagonistic form a grave menace to the commonwealth. They belong to strains that cannot be improved, no matter how good the opportunity offered them." All experienced social workers in our large cities know of the existence of such defective strains among our recent immigrants, and because of this all citizens suffer directly or indirectly—none can escape.

When we admit an IMMIGRANT WE ADMIT HIS GERM PLASM, and upon the quality of his germ plasm DEPENDS THE FATE OF OUR NATION.

The problem confronting us is ours, gentlemen, yours, mine. What are we going to do to solve it?

THE PHYSICAL BASIS OF CRIME.

(VIEWED FROM THE PRISON.)[1]

By Z. B. BROCKWAY, formerly Superintendent of the New York State Reformatory, Elmira, N. Y.

The far reach of implications our topic involves as relates to penology, sociology, and, even, theology gives a degree of importance to its consideration by the American Academy of Medicine near to the importance of the theory of evolution promulgated at the middle of the last century. The limits of this paper must be confined to explanation of the prison view, mention of observations of conditions, citation of opinions and interpretations with a brief summary of the suggested considerations and inferences. The word crime as here used includes all very offensive misconduct.

I.

At the period of my entrance upon prison service, (1848) and for more than twenty years thereafter, no manifestation of close study into the causes of crime could be observed, in the United States by prison managers or legislators. Supernaturalism salved the needed scientific inquiry. The correction of criminals consisted in vague reliance on the punishment of the imprisonment and the religious influence of church conventionalism, sporadic evangelism, and on the imaginary, magical effectiveness of what is later known as the "personal touch." However, the formulation and adoption of a declaration of penologic principles by the American Prison Association at Cincinnati, Ohio, in 1870, and the discussions the next five years turned attention of prison managers and much public interest to the more realistic view. No doubt the awakening and publicity occasioned by the convention and discussions served somewhat to prepare the way for the procedure at Elmira the next twenty-five years where unusual regard was given to physical and material causation.

II.

Having reference now to the great bulk of the imprisoned, exclusive of exceptional prisoners, very good or very bad, so attractive for exploitation by newspapers and well intentioned sentimentalists, it may be safely said that prisoners, generally, are pathologic and inferior. Acute olfactories readily distinguish the odor of a mass of confined criminals—an effluvium as of caged wild animals but different, and different also from the odor of the insane and of paupers. Their raucous voice or soft hesitancy of speech and faulty articulation are suggestive of the stigmata of the degenerate palate. Clammy or scaly hands, repulsive to the touch, also indicate degeneracy. Men of affairs whose business relations require daily the estimation of character, instinctively, withhold confidence from such men as the prisoners are. And refined natures—men or women—are apt to feel an inexplicable repugnance to the presence of such characters.

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[1] Read by title at the thirty-eighth annual meeting of the American Academy of Medicine, Minneapolis, June 14, 1913.

The deterioration of prisoners is shown, too, by the critical examination of ten thousand at Elmira during my superintendency; and of eight thousand, subsequently, by Dr. Christian. These prisoners were males, from sixteen to thirty years of age, committed for felonies. They were, as to their crimes and their age very nearly the same as a large majority of prisoners in our state prisons. Quite fifty separate critical tests were taken on admission and repeated at intervals for comparison and were completely recorded. From such full data, and a vivid remembrance, it may be said: That the prisoners, a majority of whom were themselves immigrants or were immediate descendants of immigrants from the crowded parts of southern Europe, and, in America, dwellers of our great cities, were of inferior stature, small bones, small cranium—$6^3/_8$ to $6^5/_8$, a very few larger than that, and they were generally insufficiently nourished. Compared with college men of similar age the average height is about three inches short; and in weight, lung capacity, strength of chest and back, they were markedly deficient. In these respects the prisoners resembled the women of a college where such defects were noted. A number of the prisoners, always present, were so sissyish in appearance as to attract and excite derision from the others: their effeminate features, the gait, pose, the carry of the hands and head, the plastered, spit-curled hair, these were derisive peculiarities. And there were organic abnormalities consonant and frequently associated with certain nameless perverted inclinations. The more recent examination of eight thousand by Dr. Christian gives, *viz.*, 25 per cent that show physical injuries mostly upon the head, and other physical disabilities, and disqualifying illnesses were disclosed together with defects of eyesight, hearing, teeth and probably of the palate. Twenty per cent of this eight thousand were tuberculous and 43 per cent were, on their admission to the reformatory, affected with some form of venereal disease.

Dr. H. D. Wey, the chief medical officer at Elmira for full twenty years, under whose direction the remarkable work there —the physical renovation for mental and moral improvement— was begun and carried on, a thoughtful and authoritative writer on the subject, declared that "crime is but the outward manifestation of moral atrophy and disease, and that the foundation of the desired educational improvement is integrity of the various organs of the body, their mutual adjustment to the varying conditions of each other, and the maintaining of their reciprocal relations." Dr. Wey's acknowledged professional attainment in connection with his extended contact-observations give weight to his declaration: the doctrine of the physical basis.

This view was emphasized and further inquiry stimulated by the address on "Brain, Crime and Capital Punishment," delivered in 1892 before the National Prison Congress, by Dr. A. Jacobi, of New York. He said that a sound medical jurisprudence inquires into the condition of a person committing a crime with the following questions: "Was the criminal when he committed the act matured both in years and intellect? Was there not an arrest of cerebral and thereby intellectual development such as idiocy? Were there chronic diseases of brain known to produce psychic diseases? Were there degenerated mostly hereditary influences affecting the ethical faculties? And, finally, is the criminal person subject to transitory disorders which are apt to make their appearance in long or short intervals, the former extending over years?" The doctor adds that on one or several of these factors depends the correct estimation of the cause and quality of the act. And that there are works on forensic medicine that give cases where the gallows has cured the diseases of the brain.

Most impressive was the statement from this high authority that: "Poisons mostly organic and often medicinal frequently develop psychical diseases and anomalies, and *any* artificial disturbance of the normal equilibrium may result in crime."

Of course, the effect of alcoholic stimulation in connection with violent crimes and disorderly behavior is common enough but the remark brought to mind two plain illustrative cases. One—Harrington—an expert mechanic, industrious and orderly except when under the influence of drink; then he always inclined to burglary. He was in my custody under the original sentence of committal for ten years. He was several times released on parole but always came back for some show of his burglarious inclination after taking to drink. The fact that his disturbed equilibrium led to burglary instead of some other irregularity could only be explained on the ground of the force of habit—the unimpeded transmission of energy in the customary avenues of the nervous constitution.

The other case, that of Ingersoll, showed an opposite effect from the nervous disturbance occasioned by severe sickness—the curative change of his apparent constitutional criminal proclivity. Ingersoll, scion of wealthy, cultured, admirable parentage and honorable ancestry had been, from his infancy, dishonest and in other ways habitually perverse. After the siege of typhoid in our hospital a marked change occurred in his mentality, in balance and tendency of mind, in his outward behavior, and he maintained the improvement while with us and afterwards when he had been released.

Dr. Jacobi, after the important if trite remark that "many things shape the nature after one is born, many while he is being born, and still more before he is born," concludes his address of more than ten thousand words, in a summarized series of well defined propositions of which the following are examples:

The function of an organ depends on its structure and composition—the changes of functions and changes of structure.

> The intellect, reasoning power and judgment and will-power are located in and dependent on the condition of the large hemispheres of the brain. The effect of structural insufficiency or deterioration is either feebleness or perversity. Insanity as well as that form of aberration, which is called criminality, *is not possible* with a normal brain.
>
> We are in constant danger of not recognizing the physical cause of misdirected cerebral action called crime...... There is but one thing fixed: that is the relation of causes and effects—the correlation of physical causes and mental and moral symptoms.

III.

Interpretation of phenomena and correction of fanciful and vain notions about the causation, the product of observations and tutelage of the physicians was greatly accentuated as, from time to time, acquaintance was made with the philosophies. Instructive and interesting on this subject as the philosophies are, only very brief mention of them can here and now be made.

Three hundred years before the Christian era, it was declared that: "Sensuous perception by the rational soul depends on existence of material images from the surface of things. Opinions and beliefs are due to the continued working of impressions upon us" (Epicurus). This realistic view so concisely stated has become the trend of modern thought voiced recently after more than two thousand years by Ernst Haeckle, namely: "We know each act of the will is as fatally determined by the organization of the individual and as dependent on the momentary condition of his environment as any other psychic activity. The character of the inclination was determined long ago by heredity from parents and ancestors; the determining of each particular act is an instance of adaptation to the circumstances of the moment whereever the strongest motive prevails according to the laws that govern the laws of emotion."

The mixture of many races in our prison population gave excellent opportunity to compare racial characteristics. The differences of bodily form and of bodily tissue and of temperament persistently transmitted from one generation to another are concededly attributed to the geographical racial inhabitancy. That is to say: the outward and inward impressions derived from soil, climate, food supply, economic status, customary employments, and the prevalent civic and social conditions are the physical and material source of the racial peculiarities. These influences are said to be stimuli acting upon the end organs of sense with the effect that molecular life-channels are formed that confirm the racial traits and tendencies. While such a formation of character would naturally be a product of long periods of time, the theory was strengthened by the observed immediate effect upon the mood and behavior of our prisoners occasioned by barometric and thermometric atmospheric deviations.

Individual ancestral heredity, too, must of course be reckoned with, but its complexity is so great that the influence is difficult to trace, is always an uncertain factor, and in relation to our practical reforming endeavors was, therefore, not of supreme importance. But, there was observable among the lower type of the prisoners such "evident incoherency, indefiniteness, and want of heterogeneity, the defects which are said to be characteristics of the lower animal organisms, interpreted as the faulty linking up of the inward physiological conditions clearly corresponding to the outward manifestations" (Herbert Spencer). And that the criminal behavior tinged with savagery might be attributed to the atavistic return of the prisoner to the primitive type. This reflection brought to mind the familiar sweeping declaration of the Duke of Argyle, that: "Nature's evidence is clear. Whatever may be the anatomical difference between man and the gorilla, the difference is equivalent in physical organization of the whole mental difference between a gorilla and a man."

IV.

But, the problem of mind—the question of essence as well as functioning, could not thus be dismissed. An exceptionally intelligent prisoner in the ethics class of five hundred, openly asked, "Is it right to discipline the body for the effect on the mind?" However impossible of solution, the problem of mind would not down, it must be construed for workableness in a reformative scheme. The mysterious force seen in all things, from lowest to highest, which according to the spiritual philosophy is the inherent primordal intelligence that governs, perpetuates and develops differences, and as claimed, effects changes in our physical functions, was at first, a confusing concept in relation to the institutional policy.

The idealistic doctrine that there is nothing but mind, of which matter is the material, was not workable. The materialistic denial that there is any influence of mind as affecting matter seemed doubtful. The academic parallelistic theory that mind and matter cannot interact, but move in parallel lines which never meet was too abstruse for practical use. So that there was no alternative but to adopt in our practice the explanation by Spinoza and Spencer—"That mind and matter are correlated and inseparable manifestations of the unknowable." But what is this unknowable? The name did not dissipate the fogginess of concept of the invisible wonderful something variously denominated as energy, spirit, soul, will, oversoul (Emerson). The absolute, God and now as above the unknowable. Could we not, within our sphere of activities, consider "unknowable" which within the minute cell substance "that can receive certain salts, proteids, water, air, light, develop it by an orderly process" (Bergeson's Creative Evolution) "into a nervous system with attendant organs whence may proceed an Eroic Symphony or a Hamlet." Could we not consider it as life and the multiform marvelous manifestations as the life process? Aristotle, too, held that the soul forms with the body a single life process needing the body just as the vision needs the eye, or any function its organ. He said: "Though we assign to thought a position of supremacy, a share in the divine and the eternal, yet it alters nothing of the outlook upon the rest of the world, and thus shows the soul and body closely intertwined" (Eucken).

Superstition and indecision which are cause and consequence, and which once hindered rational procedure, was less a hindrance when this theory of the spiritual as life was adopted. The true sphere of our human agency was better perceived, and when from time to time recourse was had to specific sense perception for mental quickening, and nerve commotion created to insure some change of habitual misconduct, the practical object of the entire reformatory scheme was more effective. This procedure so in accord with reason, was largely the outcome of the doctrine of unity in action of body and mind.

Again, briefly in relation to consciousness and variations of consciousness: Daily dealings with prisoners necessitated decisive opinion and quick judgment of the different degree of sensation and apprehension to insure proper direction of the individual treatment. We were face to face thus with the world-old question of speculative philosophy—spirit and matter—which Huxley says are the "two poles of the same absurdity: the absurdity of supposing that we know anything about either." Yet the question could not be dodged, it was obligatory to use these fundamental truths of nature and adventure with the laws of their operation. Naturally, within our field of action, where, for use, the unified concept of spirit and matter—body and mind—obtained, the human consciousness was seen as aspect of *life*. While as to life, Schopenhauer's dictum was accepted: that "the eternal principles of life cannot be defined because we cannot pass outside the limits of our consciousness and the problem of what it is itself cannot be resolved:" the phase of life—the consciousness—might at least be better understood. Our observation of the human consciousness was corroborative of the "psychological growth from small beginnings and that all progress is a progress in clearness and an emancipation from confusion."

The manifold differences were of three types: the lowest consciousness, that of mere mechanical responsiveness of the living organism to a moving force, little more than a vegetative response. The next was a dull awareness of movement with dim distinguishment of the moving force or agency—the type of animal consciousness. The third manifestation was of feeling: consciousness in varying degrees of pain or pleasure, with some emotional reaction. In this class there were only exceptional examples of introspection. No instance is now recalled of healthy noumenal appreciation.

Inclined as we were to proceed in harmony with the view expressed by Schelling: that "at heart nature and spirit are one and the same; only what happens unconsciously in one sphere attains to consciousness in the other:" the notion of *two* spheres, and that things *happen* was confusing. Could it be that according to Luys and Mandsley: "The whole intellectual and moral life of man is explained by the physical operations of the brain —that it proceeds *entirely* from the inherent elements without the intervention of any stage of a higher order—the properties being sensibility, dynamic, phosphorescence and automatism?" Or, should we accept the statement of Prof. Ladd that "the phenomena of human consciousness must be regarded as activities of some other form of real-being from the moving molecules of the brain" . . . . . . that "the mental functions are only the modes of behavior in consciousness of the non-material real-being?"

When in practice if unwittingly the traditional notion of external, invisible, spirit capriciously ruling was superseded by the concept of the life-force indwelling and functioning in accordance with the nature of things, then the field of our human duty was still more clearly discerned. Life—"freedom itself"—of infinite potentiality would bring about its own complete realization if unimpeded by obstacles the human agency could remove.

Lotze likens the body to "an eddy produced in the bed of a stream by peculiar shaped obstacle." "The general course of nature is the stream, the organized body, the obstacle against which the current breaks; and its peculiarities convert uniform and straight currents into the strange windings and crossings of the whirlpool." So it might be that the push of the life-process within and against bodily morbidity induces "crookedness" known as crime. Though there be in our moral constitution something beyond any agency possible to matter, the operations are so much determined by the material conditions that the human duty was now clearly seen to be within the realms of nature and the duty to consist in clearing the way for the free manifestation of the mysterious agency—*mind* or *life*.

V.

This culminant change of view and its effect in the prison management is a memorable epoch. The vagueness and distraction of the current mystical concept of the imminent, supernatural factitious director of affairs was now supplanted by an increase of clarity and confidence in the imminent, inherent if also transcendent orderly vital energy of things. It was an inward experience of soulful expansion, and it was the binding force, the very soul of the reformatory prison system then established. Without abatement of reverence there was thenceforth less of incantation and ceremonial solicitation for the magical intervention of a supernatural agency, thus shirking the responsibility, yet greatly more effectual, concentrated, rational means and effort to accomplish the specific reformatory purpose. The variant and varying susceptibility and responsiveness of the prisoners were no longer attributed to a satanic, supernatural cause, nor, to their own individual obdurate free agency; but with more reason such faultiness was now ascribed to physiologic and other inhibitory conditions and influences which it is the province of science to remedy.

A minimum standard of common intelligence, skill in industry, and self-control, based on the requirement, in such respects, in the free community where on his discharge he would dwell, was required of each prisoner. In order to produce and perpetuate the taste and preference for such behavior, the habit was sought to be created and firmly fixed. For the effective formation of the desired habit the most powerful motives acting directly upon the mind were steadily and specially brought to bear. And, with the aid of the very competent physical apparatus supplied and the assistance of experts employed, appeal was made also to the bodily sensation. Simultaneous, alternate and reciprocal attack upon the ego, for needful adjustment of the inward impulse and the outward action to the adopted standard of behavior was found to be effectual in proportion to the perfection of balance, wisdom and the force of administration.

VI.

The foregoing observations, interpretations and incident reflections relating to the physical basis of crime naturally bring forward some considerations:

1. Everything which takes place has its natural causes though the specific natural cause cannot always be designated (Epicurus).

2. Behavior is always a movement or chain of movements in space, either of the organism as a whole or of something in the organism such as a neutral current (The New Realism).

3. The truest consideration confidently concludes that all human conduct is affected by some physical cause either environment or physiologic or both combined (Hegle's Logic).

4. Consciousness is a process containing a nervously endowed organism, a specific type of response to stimulation and positions of the environment selected by the response (The New Realism).

5. The dependence of nervous power and mental energy upon the physical changes kept up by the circulation of oxygenated blood through the brain is just as direct and immediate as the dependence of the electric activity of a galvanic battery upon the analogous changes taking place between the metals and the exciting liquid (W. H. Carpenter).

6. The vital force of the soul, in the widest sense of the word, is the entelechy—the completeness of the body (Aristotle).

7. Whether actions are determined by capricious and arbitrary supernatural powers, or by a blind destiny coöperating with dark and mysterious forces within, or by equally blind natural laws and material conditions, the net result is the same. One is not, at any time or under any conditions, the master of his own fate (Edwin Bjorkson).

8. Man is what he does and does what he is (Anon).

INFERENCES

There is, unquestionably, some physical basis of influence that affects all human behavior.

Institutionary and individual interference with the personal liberty cannot rightly supersede proper regard for the public welfare.

The traditional objects of imprisonment such as administration of justice, advancement of abstract morality, a satisfying sense of retribution, in and for themselves considered are impracticable and, indeed, improper aims. The purpose of protection is the sole justification, and when it is effective that object alone includes and supplies every proper social requirement.

The laws and the imprisonment should restrain offenders until the material causes of their criminality are cured and removed. The time required and means to be employed cannot properly be predicted or authoritatively predetermined.

The penitentiary imprisonment both in theory and practice should be passionless, neither bitterness nor tenderness should spoil scientific procedure.

The future perfected penitentiary science must heavily draw upon the knowledge and help of the medical profession.

FROM THE FIELD.

THE 1914 MEETING OF THE AMERICAN ACADEMY OF MEDICINE

It has been said that the science of medicine has solved certain of its problems and in consequence these questions are now social rather than medical. This is true insofar as medical science has proven facts and established theories that furnish a basis for the prevention of a number of diseases and injuries. It must be remembered, however, that the superstructure, the machine built on this foundation of medical facts, can be effective only as it is fixed to and proportioned with the foundation. The steel bolts of the practitioners of medicine must steady the social organizations which are the evident effective agencies which often overshadow and conceal the ground work. These "ties" are the most homely and least evident parts of the machine but upon their strength and endurance the output of the social betterment operations depends.

The American Academy of Medicine appreciates this responsibility of the medical profession. Medicine has a social phase and sociology has a medical interest. At its next meeting, the Academy will devote itself to the consideration of the relations of the practice of medicine and the industries. With this purpose in mind, the following tentative outline for the presentation of the subject is submitted to the Fellows of the Academy:

THE PRACTICE OF MEDICINE AND THE INDUSTRIES.

A. Menace to Health due to
  I. Nature of occupation.
    a. Occupations hazardous *per se.*
      1. Occupation toxemias.
    b. Machinery hazard.
      1. Monotonous forms of specialized labor.
  II. Operative's physical condition.
    a. Child labor.
    b. Women operators.
      1. The parturient woman.
    c. Miscellaneous.
      1. Fatigue.
      2. Physical environment.
        a' Light.

      - *b′* Heat and ventilation.
      - *c′* Crowding.
      - *d′* Noise.
      - *e′* Food.
      - *f′* Home surroundings.
      - *g′* Improper recreations.
      - *h′* Drug abuse.

B. Remedial and Preventive Measures.
  I. Medical inspection.
    a. National, state, municipal, or private—which or how coordinated?
    b. Of operatives.
    c. Of plant.
  II. Medical advice.
    a. Construction of plant.
    b. Rules and regulations in operating plant—carelessness and recklessness.
    c. Legislation.
    d. Homes.
    e. Social environment.
  III. Medical treatment.
    a. Injuries.
    b. Sickness.

A. R. C.

* * *

The fourth annual meeting of the American Association for Study and Prevention of Infant Mortality was held at the Hotel Willard, Washington, D. C., November 14th-17th under the presidency of Dr. L. Emmett Holt of New York. The subjects discussed included eugenics, pre-natal care and instruction of mothers, adequate obstetrical care, problems of infant hygiene and infant feeding, standards of training for infant welfare nursing, continuation schools of home-making and the relation of vital and social statistics to plans for social betterment. The closing session was devoted to reports of the baby-saving activities in the District of Columbia and after their presentation to a symposium on an ideal plan for any community for its baby-saving campaign. The Association elects its president a year in advance. Mr. Homer Folks, of New York, was elected president for 1915. Dr. J. Whitridge Williams, Professor of Obstetrics and Dean of the Johns Hopkins Medical School succeeded Dr. Holt. The following other officers were elected for the current year:

First Vice-president: Dr. M. J. Rosenau, Boston.

Second Vice-president: Miss Julia C. Lathrop, Chief of the Federal Children's Bureau, Washington.

Secretary: Dr. Philip Van Ingen, New York.

Treasurer: Mr. Austin McLanahan, Baltimore.

Executive Committee:

Dr. J. Whitridge Williams, Baltimore.
Dr. L. Emmett Holt, New York.
Dr. Philip Van Ingen, New York.
Dr. Fritz B. Talbot, Boston.
Dr. J. L. Huntington, Boston.
Dr. J. H. M. Knox, Baltimore.
Dr. Mary Sherwood, Baltimore.
Dr. John Howland, Baltimore.
Miss M. S. Gardner, Providence.

The following directors whose terms had expired were reelected:

Dr. Wilmer R. Batt, Harrisburg.
Dr. John S. Fulton, Baltimore.
Dr. Hastings H. Hart, New York.
Prof. C. R. Henderson, Chicago.
Miss Zoe La Farge, Detroit.
Mr. Austin McLanahan, Baltimore.
Dr. Jos. S. Neff, Philadelphia.
Prof. M. Adelaide Nutting, Columbia University, New York.
Mrs. Wm. Lowell Putnam, Boston.
Dr. Herman Schwarz, New York.
Dr. Lillian Welsh, Baltimore.
Dr. Cressy L. Wilbur, Washington.

The following additional directors were elected for the terms of years indicated:

Five years:

Dr. Wm. C. Woodward, Washington.
Dr. Gavin S. Fulton, Louisville.
Dr. M. J. Rosenau, Boston.
Dr. John W. Kerr, Washington.

Four years:

Miss Ellen C. Babbitt, New York.

Three years:

Miss M. S. Gardner, Providence, R. I.

Two years:

Dr. H. I. Bowditch, Boston.

One year:

Dr. Samuel S. Adams, Washington.

Twenty-four states, the District of Columbia, Canada, Scotland, Argentina and Italy were represented in the registration at the meeting. The Association has grown since its organization four years ago from a little group of workers to an enrollment of over eight hundred persons. Included in its membership are over one hundred societies which represent organized baby-saving activities in 53 cities in 27 states. The next meeting of the Association will be in Boston in the fall of 1914. G. B. K.

* * *

RESOLUTIONS.

Offered to the Fourth International Congress on School Hygiene, at Buffalo, August 25–30, 1913,[1] by S. Adolphus Knopf, M.D., of New York.

WHEREAS, Nearly a million tuberculous children or children strongly predisposed to tuberculosis are attending our public schools, and there is hardly accommodation for 1500 to receive instruction in the open air; and

WHEREAS, The Congress is convinced that the open air school is one of the most powerful agents in the prevention and cure of tuberculosis in childhood, and it has been furthermore demonstrated that nearly all climatic conditions, providing the air is dust-free, lend themselves to the prevention of tuberculosis in the predisposed and the cure of the afflicted; and

WHEREAS, Statistics show that there are not nearly enough hospital and sanatorium accommodations for adults and children afflicted with pulmonary tuberculosis or children suffering with tuberculous joint or bone diseases; and

WHEREAS, It has been demonstrated in New York and other cities that discarded vessels lend themselves admirably to transformation into all-year-round hospitals and sanatoria for consumptive adults, sanatoria for children afflicted with joint and other types of tuberculosis, and into open air schools for tuberculous, anemic, and nervous children;

Resolved, That the Fourth International Congress on School Hygiene petitions the United States government to place at the disposal of the various States of the Union as many of the discarded battleships and cruisers as possible to be anchored according to their size in rivers or at the seashore and to be utilized by the respective communities for open air schools, preventoria, sanatorium schools for children, or hospital-sanatoria for adults. Be it further

Resolved, That the Congress expresses its appreciation to the Italian government of the example it has given by consecrating 3 of its discarded men of war to the combat of tuberculosis. Be it further

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[1] Unanimously adopted at the final general meeting of the Congress, August 29, 1913.

Resolved, That this Congress expresses the sincere wish that other governments may follow the example of Italy; and be it finally

Resolved, That copies of these resolutions be presented to the American and other governments represented at this Congress.

* * *

At the recent meeting of the National Education Association held in Salt Lake City, a committee on Janitor Service, under the chairmanship of Dr. Helen C. Putnam, made a report to the Department of Science Instruction of which the following is a summary of the recommendations:

To standardize janitor service, or school housekeeping, the first step is to get the facts. Every building, as every room in it, has its own conditions to be learned and controlled.

This can be done with least expense and greatest effectiveness by enlisting pupils' co-operation. Expense is negligible. Effectiveness is along three lines: 1. Practically constant supervision which good housekeepers find indispensable; 2, permanent records of sanitary details in place of guesses and opinions; 3, interest of future voters and home-makers in such details by practice in regulating them.

Health Officers.—Appoint a group of health officers in each classroom, for periods so limited that each child has service once a year. Credit their work to "physiology and hygiene," or "nature study," "domestic science," physics, chemistry, biology.

Temperature.—Health officers shall read thermometers hourly, record readings in a substantial book, chart them (*e. g.*, nurses' clinical charts) on a blackboard reserved for it, where pupils, principal, janitor and visitors can see perhaps a week's record at a glance. When conditions permit they shall readjust heat sources, ventilators or windows to secure proper temperature which, when artificial heat is used, should never exceed 68° F. Pupils over eight years of age can do this, sometimes younger.

Dustiness.—In high schools health officers can measure or estimate it by cultures, or by the "sugar method" recommended by the Committee on Standard Methods for the Examination of Air. The standard is 2000 particles (visible under a two-thirds inch objective) to a cubic inch of air.

In elementary grades they can wipe surfaces with a clean cloth. If dusting was properly done, nothing is wiped off. Floor, woodwork and furnishings should be as immaculate as in the best kept home or hospital. This test should come at the beginning of the session.

Health officers should be responsible for the moist erasing of chalk, but pupils should not be required to dust rooms. Officers should record sweeping of room or corridor while pupils or teachers are obliged to use the rooms.

(Severe penalties for this violation of sanitary rights should be enforced by school boards.)

Elementary pupils over eight years of age can do this, including record-keeping.

Relative Humidity.—Officers over eleven years of age can be taught to use safely the whirling wet-dry bulb thermometer recommended by the U. S. Weather Bureau. The danger of breaking is lessened by tying to the back a stick projecting a few inches beyond the bulbs. One instrument is enough for an ordinary building. Relative humidity should be recorded and charted about a half hour after the session opens. It can well be done later, also. Where possible officers shall readjust artificial sources of humidity (evaporating pans, steam radiators, etc.), or windows, to maintain relative humidity at 50 per cent.

Air Currents.—When ventilating flues have no current indicators of their own, officers should measure currents with an anemometer (one is enough for the usual building), or estimate them with candle or joss stick. Pupils over eleven can use them, perhaps younger. The effectiveness of air current is best learned by comparing the smell of schoolroom air with that out of doors—the standard of freshness. Air currents and freshness should be recorded at least once at the middle of each session. Officers should make such readjustments of windows or ventilators as indicated.

Cleanliness.—Cleanliness of washbowls, waterclosets, and of any other part of building or yard should be recorded once each session. Dirt on windows sometimes diminishes illumination one-quarter to one-third, measured by a photometer. The instrument is costly, and until a less expensive method is devised the opinion of health officers can be given. Dirty windows are important in rooms badly ventilated or specially exposed to smoke and dust. Such windows sometimes need washing once in two weeks. Pupils over eleven, possibly younger, can do this reporting.

General Suggestions.—Health officers from older grades can be appointed for rooms where pupils are too young for any special detail.

When a fault is found beyond pupils' function to remedy, it should be reported immediately to the proper authority, probably the principal. It is wise never to "interfere with the janitor." This report and the result following should be stated in "Health Officers' Permanent Records."

For other than classrooms and for corridors groups can be specially appointed, their duties being suitably modified.

Some, if not all, of these exercises in practical sanitation can be undertaken quietly at any time by any teacher in charge of any room. One or the other is already proved practicable in individual schools within the last ten years The accumulated data will be invaluable. It is the practical first step in reducing "school diseases," including tuberculosis which increases all thru school years (except in open air schools), and among teachers has a mortality rate higher than among the general public.

These facts will help demonstrate that school housekeepers, like others, must be trained in sanitary methods. Janitors' salaries and their supervisors' often equal and sometimes exceed salaries of teachers, principals and other trained workers whose responsibilities are no more serious, and who are carefully prepared and tested before appointment.

⁂

The Child Welfare Magazine, the official organ of the National Congress of Mothers, offers prizes on housekeeping in elementary schools thru its Department of Child Hygiene. These prizes are offered to Mothers' Clubs of the Congress and are three in number. One of $100, another of $60, and the third of $40. They are to be awarded in the order of excellence for the studies of housekeeping in elementary schools, each study being of three buildings. The awards will be announced at the National Child Welfare Congress in April and manuscript must be submitted to the editor of the Department, Dr. Helen C. Putnam, of Providence, not later than March 1, 1914.

NOTES AND NOTICES.

"*They shall beat their spears into pruning hooks.*" Micah, 4 : 3.

"*Only you shall beat your hooks into spears.*" Joel, 3 : 10.

On another page will be found resolutions adopted at the Buffalo International Congress on School Hygiene last August wherein a very admirable use is suggested for discarded battleships and cruisers. What more fitting use could be made of these outdated vessels, after having served their purpose of maintaining the prosperity of the nation as instruments of war, than to make them places of refuge to prevent the spread of disease and death? The idea should appeal to every class of citizen. The rapid progress of invention makes the continual building of warships an absolute necessity to keep up to date. The veriest jingo should be glad that there is an opportunity for a better use of these ancient war vessels than the scrap heap; the economist, that the period of utility should be prolonged; the peace advocate, that some use be found for these vessels which he considers otherwise to be useless; the philanthropist, that a means is provided whereby many that cannot now be taken care of, shall find a place of refuge.

We have ventured to head this with two quotations from the seers of ancient history. It is a blessed thing indeed to beat one's spears in pruning hooks and feel that the instrument of war will become a useful instrument of peace. Notwithstanding there are times when there must be a change and weapons of war be made. One great fact in opposition to the desires of those who are expert in naval affairs that a certain number of battleships be constructed each year is the short life and the great expense attendant upon the construction of so many new vessels. Utilization of the discarded vessels lessens the force of this argument, for altho it might be less expensiv to build vessels of another character and have them applied from the beginning to sanatorium purposes, still we must not brush aside the opinions of those trained in military affairs and make our desire for peace so to rule our actions as to prevent our being able to prepare for a contingency of war. Hence, the beating of the abandoned war vessels into pruning hooks of sanatoria opens a way for preparing spears that are thought to be needed by those whose business it is to take cognizance of such things.

* * *

Mrs. Frank DeGarmo, of 6186 Washington Ave., St. Louis, the Chairman of the Country Life Department of the National Congress of Mothers, has devised several schemes to bring the child into intelligent touch with the social order, and to make the boy or girl conscious of the vital utility of the school period. The "Parent-teacher Partnership Report Card" is especially happy in its conception.

* * *

The Committee for the Prevention of Blindness of the State of New York is engaged in a very laudable effort to reduce the number of unnecessary blind from wood alcohol poisoning by a campaign of education and prevention. For the former it has issued an illustrated folder on wood alcohol in English, Yiddish, and Italian. For the latter, it is agitating for a requirement that everything containing wood alcohol should be markt poison with the additional note that it may cause blindness or death if swallowed or inhaled. The effort of this Committee is commendable and should be aided by every right-thinking citizen. Doubtless copies of the folder can be obtained by addressing the Secretary, Miss Carolyn C. Van Blarcom, Room 67, 105 East 22d St., New York City.

ACADEMY PERSONALS.

HECKEL, E. B., has been elected president of the Pennsylvania State Medical Society.

HOAG, ERNEST BRYANT, has completed his appointment with the Minnesota State Board of Health and has returned to California to resume University work. He will be available for lectures and a limited amount of special health organization work in schools during the coming winter.

KIEFER, GUY L., has been elected president of the Michigan State Medical Society.

SHELDON, CHARLES STUART, has been elected president of the Wisconsin State Medical Society.

NECROLOGY.

1904.	Mr. 5.	R. S. Goodwin.
1913.	S. 28.	Edwin B. Harvey.
	O. 22.	Lucas Championnière.

LITERATURE NOTES.

MODERN PROBLEMS OF BIOLOGY. Lectures delivered at the University of Jena, December, 1912. By CHARLES SEDGWICK MINOT, LL.D., Yale, Toronto and St. Andrews; D.Sc., Oxford; Director of the Anatomical Laboratories, Harvard Medical School; Exchange Professor at the Universities of Berlin and Jena, 1912–13. With fifty-three illustrations. Cloth, 124 pp. Price, $1.25, net. Philadelphia: P. Blakiston's Son & Co.

Dr. Minot says in his preface: "It is always a difficult problem to so present new biological discoveries that they will be comprehensible to a mixt public, and yet lose nothing of their scientific value." And this gives the key to the work as well as an insight to the spirit of the man. It is a book intended for the general reader and not for the biologist and does give an admirable presentation of the newer discoveries and advances in the science of biology, losing nothing of their scientific value because of the scientific spirit of the author, yet presenting the truths in a manner easily comprehensible to any one who would be at all attracted by the book. The six lectures are designated:

1. The New Cell Doctrine.
2. Cytomorphosis.
3. The Doctrine of Immortality.
4. The Development of Death.
5. The Determination of Sex.
6. The Notion of Life.

While we commend the book to the profest biologist as being well worth his perusal its greater field of usefulness will be found among the general public who desire to be informed of the wonderful progress made.

THE MICROTOMIST'S VADE-MECUM. A handbook of the Methods of Microscopic Anatomy. By ARTHUR BOLLES LEE. Seventh Edition. Philadelphia, P. Blakiston's Son & Co. Cloth. pp. 526. Price, $4.00, net.

In this most recent edition of Lee's Handbook for Laboratory workers, the conciseness and excellence of the former editions have been maintained. It is well paragraphed and variations in type properly emphasized make reference easy. The chapters on the "Blood and Nervous System" are of special interest, having been, for the most part, rewritten; some detail is given to the description of the stains of Román y Cajal and Bielschowsky for neurofibrils. The suggestions with regard to fixing-solutions and mounting specimens are also worthy of mention.

This book seems especially of value as a volume of first reference to the histologist where abundant opportunity for simplification of the text is afforded by the numerous notations of the original papers which stud the pages and further suggests itself of value in the expression of opinions based upon long experience in the microtomist's art.

W. L. ESTES, JR.

Number 4 of the current issue of the *American Medical Association Bulletin* contains the transactions of the ninth annual conference on Medical Legislation, held in Chicago on February

25, 1913, under the auspices of the Council on Health and Public Instruction. The Conference heard what is doing, or attempted, in medical legislation in the various states thru reports of the members of the Legislative Committee. After these reports, it received and discust the reports of special committees, *e. g.*, Committee on Railway Sanitation, on Medical Expert Testimony, etc. Much valuable information is contained in the pages of this number of the Bulletin, but it is, comparatively, of little use for reference for lack of either an index or table of contents.

The Quarterly of the Federation of the State Medical Boards of the United States is the title of a new periodical to serve as the official organ of the new Society of State Medical Examining Boards. It will be recalled that the two federations agreed to disband and then to form a single society thereby to increase its influence and usefulness. Number 1 was issued in October of the present year and makes a handsomely appearing pamflet of 96 pages. The paper is good and the press work excellent, making it at once an attractiv volume. The purpose of the *Quarterly* is to seek and to publish accurate information concerning medical education and help in the work of the state boards; to determine the standards for medical education and when this is accomplisht to advocate uniform state laws for the practice of medicine. Indeed, to quote its own statement:

> Our policy is to seek the best in medical education, regardless of the source, with open mind and without prejudice. We shall ever remember that the teaching of medicine has two halves—the necessary material equipment and the inspiring spirituality of the teacher; it takes the two halves to make the whole.

The editor is Dr. Otto V. Huffman, the Secretary of the New York Board at Albany, to whom all manuscript or items of news should be sent and it is printed by the "Federation Press," Easton, Pennsylvania, to whom all subscriptions and business communications should be sent, the subscription price being $2.00.

THE PHYSICIAN'S VISITING LIST (LINDSAY & BLAKISTON'S). For 1914. Sixty-third year of its publication. Philadelphia: P. Blakiston's Son & Co.

It is difficult to write anything new in praise of this old and reliable visiting list, the friend and companion of many thousands of physicians since its first issuing. Notwithstanding its age, it renews its use from time to time while the memoranda which forms the preface to the list itself is revised and kept up to date.

We have received a copy of the "Wellcome" Photographic Exposure Record and Diary for 1914. It presents the usual valuable information and gives ample space for memorandum for the purposes indicated and must be a very useful book to those who practise photography. Its price is $0.50 and is publisht by Burroughs Wellcome & Co., 35-39 West 33d St., New York City.

The Eugenics Review for October is of greater interest than the average number of this very interesting periodical. The first article is an address by Chancellor David Starr Jordan, of the Leland Stanford University, delivered at the residence of the Duchess of Marlborough in July, 1913. Among the other valuable papers are: a translation from the French of an article by the Director of Statistics of France on Depopulation and Eugenics; and a translation from the Danish of a suggestive article entitled The Inferior Quality of the First-Born Children. The correspondence and review pages are especially interesting, while the report of the Section on Medical Sociology of the British Medical Association is of markt interest.

The American Association for Labor Legislation has issued a bulletin recently giving the labor laws passed by Congress and the state legislatures of 1913.

Commendable legislation has been adopted in most states involving some phase of the "labor" question and the Association is to be complimented for bringing together these laws so that they can be consulted conveniently.

The *Literary Digest* has ceast being a mere visitor and has become an essential member of every household desiring to be well informed.

ACKNOWLEDGMENTS.

[It is intended to acknowledge all publications received since the issue of the last number that are not otherwise noticed. The present list includes the publications received (other than periodicals in exchange) from September 18 to November 21, 1913, inclusiv.]

This acknowledgment is considered a full return for the courtesy of sending us the publication. Additional notice of review will be given when space permits. Publications treating of medico-social questions will be given precedence in the fuller notice.

Bureau of Labor:

Bulletin No. 117, Prohibition of Night Work of Young Persons.

Bulletin No. 118, Ten-hour Maximum Working-day for Women and Young Persons.

Bulletin No. 121, Sugar Prices, from Refiner to Consumer.

Bulletin No. 122, Employment of Women in Power Laundries in Milwaukee.

Bulletin No. 124, Conciliation and Arbitration in the Building Trades of Greater New York.

Bulletin No. 125, Retail Prices, 1890 to April, 1913.

Bulletin No. 128, Wages and Hours of Labor in the Cotton, Woolen, and Silk Industries, 1890 to 1912.

Bulletin No. 129, Wages and Hours of Labor in the Lumber Millwork, and Furniture Industries, 1890 to 1912.

Bulletin No. 132, Retail Prices, 1890 to June, 1913.

Bulletin No. 133, Report of the Industrial Council of the British Board of Trade on its Inquiry into Industrial Agreements.

Bureau of Mines:

Bulletin 50, A Laboratory Study of the Inflammability of Coal Dust.

Technical Paper 33, Sanitation at Mining Villages in the Birmingham District, Ala.

1. Some of the Methods Employed in the Care and Training of Feeble-minded Children. (Reprint.)

2. Care of the Feeble-minded. (Reprint.)

3. Feeble-minded Children.

4. History of the Treatment of the Feeble-minded. (Reprint.)

5. The Burden of Feeble-mindedness. (Reprint.)

6. Mentally Defectiv Children in the Public Schools.

7. The Imbecile with Criminal Instincts. (Reprint.) Walter E. Fernald, M.D., Waverley, Mass.

Report of the Commission to Investigate the Question of the Increase of Criminals, Mental Defectives, Epileptics and Degenerates, January, 1911.

The Supposed Death-Rates of Abstainers and Non-abstainers and their Lack of Scientific Value. By Edward Bunnell Phelps, New York.

What Shall the State Do in the Care and Supervision of School Children? Eugene H. Porter, M.A., M.D., Dr. P.H., Albany, N. Y.

The Registration of Vital Statistics and Good Business. Louis I. Dublin, Ph.D., New York.

Economic Influence on the Medical Profession of the Periodic Examination of Insured Lives. Eugene Lyman Fisk, M.D., New York

Linking the Life Insurance Companies to the Public Health Movement. Eugene Lyman Fisk, M.D., New York City.

Metropolitan Life Insurance Company: Smallpox and its Prevention.

Mortality Statistics, 1910. Eleventh Annual Report.

Idealism in Medicine. Wells P. Eagleton, M.D., Newark, N. J. (Reprint.)

Shower Bath for Country Houses. By Carroll Fox, Surgeon, United States Public Health Service.

Forty-fourth Annual Report of the Board of State Charities and Corrections of Rhode Island, 1912.

Quarterly of the Federation of State Medical Boards of the United States, Vol. I, No. 1, October, 1913.

The University of Pittsburgh in its Service to Commonwealth and Community.

Fourteenth Report of the Michigan Academy of Science, 1912.

Publications of the United States Public Health Service, August, 1913.

Proceedings of the American Philosophical Society, Vol. LII, 211, Sept.-Oct., 1913.

Thirteenth Census of the United States: 1910. Volume VIII, Manufactures. General Report and Analysis; Volume III, Population.

United States Geological Survey:

Water-supply Paper 334. The Ohio Valley Flood of March-April, 1913.

Unforme que el Doctor Don Joaquin Eguia Lis, Rector de la Universidad Nacional de Mexico.

Physical Observations, Kromayerlamp, Finsen Light, Uviol Rays, "Alpine Sun Lamp" (Quartz Lamp Radiation after the Bach-Nagel-Schmidt Modification of the Kromayer Mercury Vapor Lamp). Dr. Karl Wagner, Graz. (Reprint.)

INSTITUTIONS OF LEARNING.

Connecticut, Yale University, Bull. s 9, 10, Aug.; 11, S. '13. *Illinois*, Northwestern University, Bull. xiv, 12, N. '13; Med. Sch. Announcement, 1913–14. *Iowa*, Coe College, Courier, xiv, 2, S.; 3, O. '13. Parsons College, Bull.

xiii, 2, N. '13. *Massachusetts*, School for Health Officers, Circular i, 1, S. '13. University of Minnesota, Bull. xvi, 17, Aug.; 18, S. '13. *Missouri*, Central College, Nile-Green and Black, vii, 1, O. '13. University of Missouri, Bull. Med. Series, i, 3, Jl. '13. *Nebraska*, University of Nebraska, Agricultural Experiment Station, Press Bull. No. 44; University Studies, xii, 3, Jl. '13. *Ohio*, University of Cincinnati, Record, s 1, ix, No. 7, May, '13. Western Reserve University, Bull. xvi, 6, S. '13. *Rhode Island*, Brown University, Bull. x, 4, O. '13. *Virginia*, University of Virginia, Alumni Bull. 3d s, vi, 5, O. '13.

HOSPITAL REPORTS.

Annual Report of the Department for the Insane of the Pennsylvania Hospital for the year ending April 24, 1913.

Fifteenth Annual Report of the Free Hospital for Poor Consumptives and White Haven Sanatorium Association.

Forty-ninth Annual Report of the Board of Managers of the Howard Hospital.

Seventeenth Annual Report of the Board of Managers of the Pennsylvania Epileptic Hospital and Colony Farm, January 1, 1912 to May 31, 1913.

Seventeenth Annual Report of the Allentown Hospital Association for the year ending December 31, 1912.

Tenth Annual Report of the Barlow Sanatorium, Sept. 1, 1913.

REPRINTS.

Acknowledgment is made of the receipt of reprints upon topics of medicine other than medical sociology from Drs. Paul E. Bechet, New York; Howard W. Howell, Boston; G. B. Jobson, Franklin, Pa.; William Martin, Atlantic City; Randle C. Rosenberger, G. E. de Schweinitz, H. Augustus Wilson, Philadelphia; Casey A. Wood, Chicago.

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Elliott, Edward C.	Madison, Wis.
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